Global Views

Nature cure treatment in the context of India’s epidemiological transition

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ABSTRACT

Scholars have argued that theoretical insights of critical medical anthropology should be applied to the analysis of complementary and alternative medicine in order to develop more critically engaged integrative medicine. In this essay we focus on nature cure in the context of India’s contemporary epidemiological transition as an example of why engaged integrative medicine is important for public health, and how the institutionalization of nature cure treatment in India provides a critical framework for the development of programs focused on holistic treatment and prevention. After providing an overview of the epidemiological transition in contemporary India, we develop this argument through an examination of illustrative cases in a clinic that operates within the structure of India’s Central Council for Research on Yoga and Naturopathy. Based on a review of recent history and contemporary practice we describe how a system of medicine that makes use exclusively of air, earth, sunlight, water and food has been institutionalized and professionalized in India. Whereas biomedical treatment for chronic non-communicable diseases is focused on the problem of curing individual diseases, nature cure establishes a regimen of personalized public healthcare for the integrated management of symptoms. We argue that nature cure is based on an ecological understanding of health, thus providing treatment that reflects a broad appreciation for the risk factors that characterize India’s current crises of public health.

Keywords: naturopathy; anthropology; complementary therapies; non-communicable diseases; India


1 Introduction

In this essay we set out first to briefly review the nature and extent of a major public health problem in contemporary India1[1], as this problem directly relates to the practice of naturopathy. We follow this by describing India’s approach to institutionalized medical care, highlighting the intended and unintended consequences of the policy of medical pluralism on medical treatment, public health management and education. Further, we describe the institutional structure of nature cure in contemporary India, using the case of Somnath Prakritik Chikitsa Yoga Kendra (SPCYK) in the city of Rishikesh as an example. Based on a sample of 76 medical records randomly selected from the year 2012 when we examined the way in which therapy based on a 19th century theory of the “unity of disease” was used to treat patients who embodied critical features of India’s contemporary epidemiological transition. Following this, we offer recommendations for the development of a broader strategy for improving public health, based on an expanded understanding of efficacy, holistic health and bio-ecology.

This essay builds on Hans Baer’s analysis of how critical medical anthropology can inform the practice of complementary and alternative medicine by challenging...
fundamental assumptions about health and treatment\textsuperscript{[2–5]}. Assumptions about efficacy, individual health and the prioritization of cures over prevention can be traced to the hegemony of biomedical reasoning, institutional medicine and a pharmaceutical-industrial complex which support neoliberal capitalist medical systems, as well as many systems of socialized medicine. Our purpose here, however, is not to criticize biomedicine. Instead we will show how the practice of nature cure in India provides an example of integrative medicine as a form of applied public health that is based on a political ecology of the body. In the practice of nature cure, a political ecology of the body establishes a framework for holistic health, based on a rejection of pharmaceuticalization on one hand, and a critique of unhealthy patterns of upper-middle class consumption on the other.

The present analysis is based on medical records of SPCYK patients collected by Dr. Chandrashekar Sharma\textsuperscript{[6]}. The contextualizing analysis of nature cure’s relationship to public health problems is based on a larger study of the historical development of nature cure interventions in 20th century India\textsuperscript{[7,8]}. This larger, longer-term study not only focuses on the way in which nature cure manifests a political ecology of health based on the ways in which the body and the environment intersect to produce risk\textsuperscript{[9]}, but also how these intersections can be used to reduce risk and promote health in various ways.

2 A crisis of health in contemporary India

Over the past half century, and especially in the 30 years since economic liberalization, there has been a profound change in patterns of health and disease in India\textsuperscript{[10–14]}. Cardiovascular heart disease (CVD) is now the leading cause of death\textsuperscript{[15–17]}, and there have been dramatic increases in incidences of diabetes\textsuperscript{[18,19]}, arthritis, asthma, stroke and depression. Obesity is becoming a major health problem among a significant percentage of the population\textsuperscript{[20]}. This is unfortunate and counter-intuitive in a country where poverty and malnutrition is widespread\textsuperscript{[14,17,21]}

Recognizing its seriousness as a public health problem and the complexity of determining patterns of risk in relation to obesity’s different manifestations in a highly diverse, class-stratified society, the Indian Council of Medical Research has recently funded a major research project to determine the scale and scope of the problem on a national level, while keeping gender, regional, as well as urban and rural differences in clear focus. Measuring generalized, abdominal and combined obesity in four different parts of the country, based on a sample of approximately 14 000 individuals, the results showed a significant increase in both urban and rural areas\textsuperscript{[22]}

Non-communicable diseases (NCDs) are very closely linked to obesity and lifestyle\textsuperscript{[23]}, and even though the epidemiology of specific medical conditions can be isolated, studied and understood in terms of cause and effect correlations, lifestyle remains an important framework within which to understand how people experience health with reference to a complex mix of causal factors—singularly direct and multi-dimensionally indirect—that are associated with constellations of diseases.

There is generally a close correlation between increasing prosperity and changing patterns of consumption\textsuperscript{[24,25]}. Although a very large number of people are vegetarian, vegetarianism in India is based on refined high-glycaemic carbohydrates rather than raw fruits, vegetables and foods that are very high in saturated fat\textsuperscript{[26]}. Dairy products, such as milk, cheese, buttermilk, cream, milk solids, butter and yogurt, are now integral parts of many middle-class diets\textsuperscript{[27,28]}. Ghee, which is a clarified and caramelized butter, perhaps is the clearest example of this. Understood to be the condensed essence of butter, it is a powerful symbol of wealth, status and refined taste.

In the context of India’s culinary and medical culture, ghee is regarded as a highly refined and pure substance. Both literally and figuratively it is the condensed essence of the cow, which is a powerful symbol of nurturing vitality. For this reason ghee is regarded as a source of energy, strength and potency. Almost consisting of fat completely (99.5%), of which the largest fraction is saturated (62.0%), ghee, consumed in excess, contributes to increased risk of coronary heart disease. The “contradiction” between ghee’s cultural value as a “healthy tonic” and its nutritional fat content, produces a complex scenario for health in general. Broadly this extends to all dairy products, including buffalo milk which has a higher fat content than that in cow’s milk and is commonly used in the commercial production of yogurt, cream and milk solids. In any case, the pattern of dairy consumption in India has changed dramatically during the period of economic liberalization since the mid 1980s. Between 1991 and 2007 milk production doubled to 100 million tons with a corresponding increase of 38% in the per capita amount available for consumption. Fifty-five percent is consumed by producer households and approximately thirty percent is sold directly by producer households to consumers\textsuperscript{[29]}. Thus, the consumption of whole milk and milk products such as ghee, yogurt, and cheese have increased dramatically in rural and peri-urban areas. Only a relatively small percentage of milk is processed for sale by cooperatives and commercial dairies where it is toned, skimmed and pasteurized.

To whatever extent ghee and other dairy products are unhealthy, increased wealth in India has also generated a large and pervasive industry of commercialized food production where the use of trans-fats is very common\textsuperscript{[30]}. Almost all popular snacks and prepared
foods are made with partially hydrogenated vegetable oil, known generically as vanaspati ghee\textsuperscript{[31,32]} (The use of the designation “ghee” is an unfortunate and confusing misnomer, especially on account of ghee’s cultural valuation, since partially hydrogenated vegetable “lard” is much worse than saturated dairy fat in terms of the effect it has on health. Even many commercially available vegetable oils that do not contain trans-fat present health risks when consumed in excess.) Popular sweets and savories such as jalebis, samosas, puris, aloo tikki, bathura and pakoras are inherently unhealthy because they are deep fried, but rich and creamy sauces for many vegetable and lentil preparations are also based on heavy ghee or vanaspati ghee sautés. The government of India has recently legislated a limit on the percentage of trans-fats in commodities\textsuperscript{[33,34]}, but enforcement continues to be a major problem and local products often contain much more than the stipulated maximum percentage\textsuperscript{[35]}.

Along with diet, changes in physical activity have been dramatic, with sharp increase in the number of motorized vehicles per capita, and especially a shift from walking and riding bicycles to using motorcycles and scooters. Motorcycles are particularly emblematic of the preferences and aspirations of the rapidly growing middleclass. Thus ownership of motorized transport and the chain of economic factors that makes transportation affordable can be understood as a causal factor in obesity, albeit on a multidimensional level that clearly involves many other things. The following is a statement told from a forty-five year old lower middleclass tailor in the Himalayan town of Mussoorie. For most of the day he sits in his shop stitching clothes made to order.

“Do you remember? In those days (the 1980s) we never thought twice about bundling up our load of clothes and carrying it all the way up the hill on our backs. We arrived drenched in sweat, but did not mind! Now, you see, I will not think of doing that; and I am trying to buy a good, used motorcycle. Everyone rides them now! No one thinks of walking.”

While standard and well accepted risk factors are relatively easy to identify, it is important to be able to determine, as precisely as possible, the social and cultural configuration of practices that correlate with risk more broadly defined. Thus, critical questions are: how, exactly, do changes in diet increase cholesterol and blood sugar levels; how, and in what form, are processed and packaged foods which contain simple carbohydrates and relatively large amounts of salt being consumed and incorporated into the diet of children, adolescents and adults; and, quite apart from the influence of advertising, how does television, the internet and social media produce patterns of sedentary leisure that displace more active forms of recreation and socializing?

Overall, the following statistics provide a crude measure of the scale and scope of an epidemiological transition that is indicative of a major health crisis in contemporary India. With reference to NCDs, which account for 53% of all deaths, 34% are attributed to CVD, 11% to respiratory diseases, 6% to cancers and 2% to diabetes. One in four men smokes. Close to the same number has elevated blood pressure. One in six women is overweight and does not get adequate exercise. More than one in every four people has elevated cholesterol\textsuperscript{[36]}. In 2005 India registered the world’s highest loss of potentially productive years\textsuperscript{[37]}, with a major factor being the rapid increase in incidences of chronic obstructive pulmonary disease, which are among the highest in the world. As highlighted in a recent article summarizing the data: “Such mammoth volumes of disease have the potential to overwhelm health systems and state economies.”\textsuperscript{[38]}

The generalized sense that people now have of the complex, overwhelming configuration of multi-dimensional causal factors in India’s contemporary health crisis is similar to the late 19th century sense of pervasive miasmic degeneration correlated with pollution, congestion and other less clearly articulated factors that inspired broad sanitation reforms at the peak of the industrial revolution\textsuperscript{[39]}. Analogous to these reforms, which redefined urban space and began a process that revolutionized public hygiene, nature cure may be understood as a form of biocultural health that does not necessarily abide by the logic of scientific medical epidemiology, but gives public health a way to understand the singular unity of disease. Nature cure can be effective as a result of analogical reasoning. Diseases are understood to be symptoms of a larger problem, rather than discrete problems unto themselves. Just as sanitation reforms helped to prevent the spread of viral and bacterial infections without reference to “germs”, nature cure provides treatment for the overwhelming “mammoth volume of disease” without concern for the precise etiology of biomedical reasoning in the context of India’s contemporary epidemiological transition.

The burden of disease in contemporary India will not be lifted by finding new and more effective cures for specific conditions; it will be lifted after recognition of the fact that the burden has shifted from diseases per se to life styles in general, and the “weight” of poor health that is symptomatic of these life styles. Nature cure provides an important perspective on both the epidemiological shift as a problem, and on the need for a shift in orientation toward the problem as a whole so as to better understand the nature of the solution.

3 AYUSH: the institutionalization of medical alternatives

For complex reasons that provide an interesting example of how medical systems are defined and integrated into national health care\textsuperscript{[40]}, India is a good example for both of what works and what does not work in terms of medical pluralism\textsuperscript{[41,42]}. 


Following several decades of intensive political, economic and cultural struggle with and against British imperialism, leading up to independence in 1947, India developed a plan to support so-called Indian Systems of Medicine. Over the years this has evolved into the Department of AYUSH under the Ministry of Health and Family Welfare. As currently structured, the AYUSH encompasses a number of discrete medical systems supported, professionalized and institutionalized by the central government, including Ayurveda, yoga/naturopathy, Unani, Siddha, homeopathy and Tibetan medicine. Although biomedicine based on clinical science is unambiguously dominant and is institutionalized in the All India Institute of Medical Sciences, India has a well-established policy of medical pluralism which relates very closely to an ideology of secular state nationalism based on the principle of “unity in diversity”. Each “system” of medicine correlates with different interests of language, culture and heritage, although both naturopathy and homeopathy have more complicated transnational histories, as does Tibetan medicine.

Ayurveda, Unani, Siddha and homeopathy are very different in many ways, but are all based on the use of medicines and commercial products. Moreover, an extremely large and lucrative pharmaceutical industry has developed a mass-produced range of commodities and drugs under the rubric of each system. These include Dabar, Himalaya, Patanjali Ayurved Ltd., Hamdard, Schwabe, Baksons Homeopathy, and TAMPCOL, among others.

This is not the place to take into consideration questions of the efficacy of these drugs, or claims to authenticity. What is important, however, is that the professionalization of the AYUSH systems of medicine has contributed to the commodification and commercialization of herbal drugs in all of these systems, except for nature cure. These drugs are marketed both as holistic remedies and as prescription medicines\footnote{43}. Wealth and prosperity have directly contributed to a culture of consumption in contemporary India that has, to a large extent, fueled the rapid growth of an industry, and the market value of its specific products, designed to treat the ill effects of a lifestyle based, precisely, on the sedentary consumption of excess. While products provide relief and drugs are designed to heal, the pharmaceutical industry as a whole depends on the fact that consumers will continue to be unhealthy\footnote{44–46}. Depending on one’s point of view, this can be considered brilliant, ironic, immoral or unethical. Nature cure, within the rubric of the AYUSH, defines a critical perspective on this problem.

4 Nature cure and the central council for research on yoga and naturopathy

Mohandas Gandhi’s point of view was that medicine based on the use of drugs was immoral and unethical\footnote{47}. The Mahatma was an extremist; but his extremism provides an important perspective on the relationship between public health reform and the commodification of drugs in the context of rapid economic change and India’s dramatic epidemiological transition. Nor was the leader of India’s struggle for independence alone in holding radical views on health, he was, simply, a person who was strategically very well placed to make claims about the relevance of critical public health to what is now called “national health security” in relation to risk factors, morbidity and loss of productivity. For Gandhi, however, the equation was much more basic and fundamental than health security. He based his political activism and social justice idealism on principles of action that involved diet reform, bread labor (consuming only what you yourself produce) and nature cure.

When Gandhi returned to India from South Africa in 1915, nature cure had already been introduced into a number of urban centers following turn of the century translations of key late 19th century German books that laid out the philosophy, principles and methods of practice\footnote{48}. Nature cure itself developed as a result of late Victorian techno-scientific innovations in water cure, as these took shape in the methods of hydrotherapy. Hydrotherapy combined with heliotherapy, earth therapy, fasting regimens and raw-food vegetarianism at the fin de siècle and was popularized by Benedict Lust in the United States under the rubric of naturopathy. Gandhi’s advocacy, based on his experience and experimentation in London and South Africa, intersected with growing interest in British India, particularly in Andhra, Bombay Presidency and Calcutta.

Over the course of more than a century, nature cure has exemplified several important features of public health activism. With influences ranging from Samuel Thomson, Sylvester Graham and John Harvey Kellogg in the United States, to John Floyer, James Currie and R. T. Claridge in England, and Vincent Priessnitz, Sebastian Kneipp, Louis Kuhne and Adolf Just in southern Europe, it reflected a kind of global populism in the early 20th Century\footnote{49,50}. While clearly drawing on bio-moral and ethical principles of vegetarianism in different religious traditions, and the embodied significance of bathing associated with local health beliefs ranging from the hammams of western Asia to Russian banyas, nature cure synthesized broadly related ideas about health into forms of practice that had considerable appeal in the context of colonial cosmopolitanism. Consider here how the “Turkish Bath” was adapted and popularized in Victorian England. Linked to this, nature cure reflected the way in which ideas about health were very closely linked to ethical, moral, spiritual and aesthetic concerns. It thus coalesced into a philosophy of health care that was critical of various forms of alienation, exploitation
and injustice in modern society. As such, “nature” in various manifestations became a powerful symbol of the potential for recovery from the manifold ill effects of industrialization, urbanization and the consumptive toxicity of consumerism.

In British India, nature cure gained a following among the growing middle-class in urban areas and was popularized, in part, by members of the Theosophical Society, given the influence of Rudolf Steiner’s teachings on health and anthroposophical medicine and publications such as *Occult Chemistry* that articulated alternative theories on the ontology of nature. However, there is no direct connection between nature cure and theosophy; there is only a degree of general philosophical overlap that encouraged experimentation in the domain of naturalistic alternative healing from the late 1880s onward. Without question, Gandhi’s program of diet reform and nature cure fit directly into this experimental milieu, giving it a well-defined political orientation with a focus on self-discipline, service and public health. Nature cure also fit very well with the principles of *ahimsa* (non-violence) and Gandhi’s advocacy was directed against the incipient violence of biomedicine as much as it was against the articulations of modernity that seemed to require the violence of strong drugs.

For a number of interesting reasons, the introduction of nature cure into India corresponded to, and most likely stimulated, intense interest in the medicalization of yoga *asana* and *pranayama* in the early decades of the 20th century. As the case of Somnath Prakritik Chikitsa Yoga Center illustrates, the synthesis of the two has reached a point of formal institutionalization at both a popular and programmatic level.

Since independence in 1947, nature cure has become increasingly professionalized and institutionalized through the development of the National Institute of Naturopathy in Pune (NIN), and the Central Council for Research on Yoga and Naturopathy (CCRYN) under the AYUSH. There are a large number of training colleges throughout India, the oldest and most prestigious being in Hyderabad. There are also several thousand clinics, hospitals, centers and *ashrams* around the country that provide treatment and conduct research on various diseases and treatment protocols. Funding is provided by the CCRYN based on competitive applications.

Naturopathy, as practiced in India, continues to follow the principles of treatment established by the early 20th century practitioners such as Gandhi, Kuhne, and Kneipp, among others. Gandhi’s *Key to Health* is widely available, and the NIN has recently reprinted John Harvey Kellogg’s massive tomb *Rational Hydrotherapy*. The CCRYN has published translations of works by Adolf Just, Sebastien Kneipp, Louis Kuhne and Henry Lindlahr as well as a number of manuals outlining the procedures for, and benefits of, steam baths, immersion baths, hip baths, spinal baths, mud baths, enemas, massage, sun baths and specific yoga *asana* and *pranayama*.

Although holistic in terms of the “unity of disease” theory, and oriented toward comprehensive wellness, nature cure is, nevertheless, invasive, highly regimened, and entails the cultural logic of a kind of essentialized duality based on the objectification of the body and body parts in relation to technology and the elements of nature. Nature cure does not so much treat the whole person, in the manner and mode of new age wellness therapy, as provide concrete treatment for people suffering from the symptoms of extreme ecological insult. Element by element, system by system and appendage by appendage, the body, as an ecological facet of a larger integrated elemental system is made to become, by means of nature cure methods, the healthy microcosm of a natural environment.

### 5 SPCYK

SPCYK is located in the town of Rishikesh on the banks of the river Ganga in the state of Uttarakhand. The Center operates under the auspices of Parmarth Niketan, which is one of the largest spiritual retreats in the pilgrimage town. As in the case of other clinics affiliated to religious bodies and charitable trusts around the country, SPCYK’s mission is to provide medical treatment as a form of public health service at a nominal cost. Most certainly there are more profit-oriented institutions around the country, but even the most commercialized of these are based on a kind of idealism that is not compromised by the monetized commodification of amenities and services. Quite explicitly the ideal of nature cure is to avoid drugs completely, especially commercialized pharmaceuticals, change people’s dietary practices, and provide treatment that helps the body purge toxins to both prevent disease and heal itself.

Although Rishikesh is unique in many ways on account of being a pilgrimage center and tourist destination, SPCYK is representative of most other nature cure institutions throughout India, rather than unique as a consequence of the specific religious context. It is a completely secular institution. Nevertheless, patients come to Rishikesh because of the climate, the environment and more generally the spiritual atmosphere of the sacred river as it flows out of the Himalayan foothills into the plains of North India.

#### 5.1 Institutional structure and treatment

The center can accommodate up to 80 patients in semi-private rooms and has a kitchen that provides prescribed meals on a regular schedule. Separate treatment facilities for men and women include eight private massage rooms, four enema rooms, two saunas, ten hydrotherapy rooms.
and two outdoor areas for mud and sun bathing, and for the performance of yogic kriyas (purification practices) such as shank prakshalan, kunjal, dhauti and jal neti. These procedures involve purgation, induced vomiting and sinus hydration so that spaces with sinks and drains are essential. There is also a yoga hall and a lab for conducting medical tests. In addition to Dr. Sharma’s main office there is an exam room for admitting patients as well as a room with a library that is also used for storing records and for payment processing.

Although treatment regimens are prescribed on a case by case basis, there is a basic structure common to all patients. The structure involves two therapy sessions and a period of yoga exercise every day, one session in the morning from 8 to 11 a.m. and the second in the afternoon from 3 to 5 p.m. The morning session includes various forms of hydrotherapy, most commonly an extended hip bath, followed by a mud bath or a massage. The afternoon session usually involves a different kind of hydrotherapeutic bath, often localized steam or the application of hot and cold compresses to different parts of the body. Guided yoga asana and pranayama exercise is conducted for an hour in the morning, and patients are encouraged to walk for exercise along the old pilgrim trail leading into the Himalayas that extends upriver on the eastern bank of the Ganga.

Diet and nutrition are an integral feature of treatment at SPCYK. The purely vegetarian kitchen and dining hall are at the center of the institution’s residential wing. It is staffed by three women who provide patients with meals and nutritional soup, herbal tea and snack supplements on a set timetable. Depending on a patient’s condition, meals include different items and are more or less regimented. Seriously overweight individuals with elevated blood sugar levels are carefully monitored. In general terms food is minimally processed and lightly spiced. Emphasis is placed on vegetables, sprouted grains, fruits, and raw salad greens although whole grains are used for unleavened bread and cracked whole-wheat grains for porridge. Fat and salt are included to maintain the absolute minimum that is required for adequate nutrition.

Although many clinics and hospitals provide outpatient treatment, the expectation at SPCYK is that patients will spend one to three weeks or more resident in the facility undergoing daily treatment. Approximately 800 patients are admitted every year, most are over forty and many are retired from government service occupations as well as from a range of professions and businesses. Almost all are upper middleclass.

5.2 A sample of cases

The details of a sample of 76 cases from 2012 provide a clear perspective on several critical health issues. An analysis of these data shows that individuals who are significantly overweight and suffer from a distinctive set of serious chronic health problems select nature cure treatment as an option designed to treat these conditions within a unified framework of therapy and lifestyle modification. Many patients on medication for diabetes and hypertension hope to wean themselves off extended drug regimens.

Seventy-five percent of the sample is female. Of the forty-nine women, thirty identified themselves as house wives. Others identified themselves as business women (6), teachers (3), a social worker (1), and a medical doctor (1). Twenty-five percent of the sample is male. Of the 22 men, 10 identified themselves as being in government service occupations, 8 as businessmen, and 1 each as an advocate, a certified public accountant, a medical doctor and a farmer. In terms of geographical distribution, 13 are from the Delhi metropolitan area, 24 from the state of Uttar Pradesh, 17 from Uttarakhand, 6 from Rajasthan, 2 from Bihar and 1 each from of Madhya Pradesh, Gujarat, Punjab and Maharashtra. The median length of stay is 7 days with the average length being 8.3 days. One day is the shortest and 24 days is the longest duration of treatment.

Sixty-five percent of the sample of 76 patients is overweight (BMI>25.0 kg/m²), with the remainder being in the upper-most range of healthy weight (22.0<BMI<25.0 kg/m²). No one in the sample is underweight. These data correspond both to patients’ self-assessments and to subjective diagnosis during admission where 70% of the sample “looks” overweight.

The age range for patients was 38 to 80, with 50% between 50 and 70 years old. Only 5 patients are under the age of 40. Although data are insufficient to draw conclusions, it appears that patients near or at major age-marked milestones are disproportionately represented. Ten patients are between 36 and 42 years old, with none in the 43 to 45 range; twelve are between 46 and 52 years old, with only 3 between 53 and 55 years old. The nine-year span including 55 to 64 year olds has the largest total age representation of 26 patients. Among these 9 are between 58 and 60 years old, which is suggestively disproportionate. For the age bracket 65 to 70, which includes 14 individuals, 11 patients are between 65 and 67 years old, again, a disproportionate number relative to the total distribution, but indicative of a pattern that links health-seeking behavior to milestones in aging. The pattern may suggest that those who are overweight and suffer from long-term chronic conditions become more concerned about health issues as they pass or approach major milestones, especially the ages of 40, 50, 60, and 65. This could be significant for recruitment and treatment compliance strategies.

Perhaps most significantly, all patients suffer from multiple health problems, as measured by documented
medical diagnosis and/or self-assessment. In order of decreasing prevalence, the six most common complaints are hypertension, type 2 diabetes mellitus, osteoarthritis, constipation, excess weight, and back and neck pain. All patients in the sample suffer from at least two problems, and 80% suffer from three. A combination of diabetes, hypertension and arthritis is the most common diagnostic configuration, with 70% of the sample of patients identifying symptoms associated with all three disease categories. For these patients diabetes is most likely to be identified as the primary complaint, followed by arthritis and then hypertension. All patients who complain of hypertension and diabetes have been diagnosed with these conditions during previous checkups and often bring medical documents with blood pressure (BP) readings and blood sugar test results. In terms of recorded BP readings at the time of admission, the following range is indicative: low BP, less than 110/70 mmHg = 10; normal BP, between 125/80 mmHg and 111/71 mmHg = 22; elevated BP, between 180/80 mmHg and 126/81 mmHg = 35.

Nineteen patients in the sample have a BP reading above 140/90 mmHg, and approximately half of the patients whose BP reading is “normal” are on medication. Similarly, all but one patient diagnosed with diabetes is on a regimen of medications for the management of blood sugar levels and symptoms. Pulse readings range from 56 to 110 beats/min (bpm), with 78 being the median.

Osteoarthritis is an interesting medical problem for several reasons. It produces chronic pain and problems of mobility, but unlike diabetes and hypertension is difficult to treat effectively by means of management drugs. Correlated with age progression and weight gain it is not unto itself life-threatening, but is more painful than many more serious ailments. For this reason, osteoarthritis is often what motivates individuals to seek nature cure treatment for all of their symptoms of distress, not just the pain they feel in their elbows, wrists and knees.

Osteoarthritis is also a condition for which nature cure provides direct relief in terms of standard biomedical measures of efficacy. Hot and cold water treatment is effective in relieving joint pain, and massage also provides relief from the stress and strain put on muscles that compensate for imbalanced motility and both the overuse and underuse of appendages. Similarly, yoga asana as a form of structured rhythmic exercise provides relief from joint stiffness and promotes muscle strength and flexibility. This is especially useful for older patients with impaired mobility.

In many ways constipation is similar to osteoarthritis, insofar as it is chronic and can be painful but is not particularly life-threatening or easily treated with drugs. Of the 24 patients who identified 4 medical problems, 12 identified constipation as their fourth most serious complaint whereas only two identified it as their primary health problem. Seven ranked it third and three ranked it second. As with osteoarthritis, constipation can be effectively treated using enemas, yoga asana and changes in diet, and is most likely a catalyst condition that motivates people with other chronic health problems to seek out nature cure treatment for their particular configuration of symptoms, both major and minor.

Constipation is also interesting and important for reasons that are more explicitly cultural, and that reflect the cross-cultural nature of nature cure, its popularity in India and its adaptation to health concerns in the 21st century. Although by no means unique to South Asia, constipation nevertheless has a great deal of resonance as diagnostic of generalized physiological problems within a South Asia cultural rubric that includes popular ideas about the fluidity of the body as a whole. Beyond what it signifies as a symptom in biomedical terms, constipation in South Asia is very often taken as a sign that a fluid process that should efficiently produce “condensed” feces is not working effectively, and that waste material is accumulating in the body rather than being purged. This corresponds very closely to a central principle in the theory of the unity of disease articulated by Louis Kuhne, namely that all medical problems are symptomatic of toxicity in the body in general and in the digestive system in particular. Thus, in addition to being an irritating symptomatic catalyst that brings older patients to SPCYK, constipation is understood by a significant number of older middle-class Indians as being a very important diagnostic sign of poor health, even though it is not at all a symptom directly correlated with their most serious medical condition.

### 6 Healing and health at an epidemiological transition

While statistically irrelevant, it is striking that the one man in the sample who identified himself as a “farmer” was the oldest patient (80 years old), had a very healthy, unmedicated BP reading (110/70 mmHg) and was one of only three people in the sample at the lower end of a healthy height-to-weight ratio range. At 165 cm he weighed 55 kg. His heart rate (60 bpm) was the second lowest in the sample. His reason for coming to Rishikesh, from a village home near Haridwar which is 40 km away to spend 9 days at SPCYK, was to undergo treatment for “pre-diabetes, cardiac stress, a persistent cough and constipation.” Everyone in the sample other than this elderly farmer embodies health problems that reflect a profound epidemiological transition in modern India. In essence, middle class people are living longer because of the effectiveness of public health programs that have
reduced mortality and morbidity over the past seventy-five years. But a dramatically increasing number of these people are gaining weight and becoming less healthy as they age. Those with multiple medical conditions typically take medicines for hypertension and diabetes, but some opt for nature cure to both alleviate symptoms associated with arthritis and constipation and to lose weight and wean themselves off drugs.

It is important to note that even though nature cure was “invented” to treat infectious diseases such as tuberculosis during the second epidemiological transition in Europe, as this transition correlated with urban living, water and food contamination and both viral and bacterial infection, the theoretical principles of nature cure allow for the same treatments that were used then to be used now for a broad range of diseases that encompass radically different theories of cause and effect within the scientific rubric of biomedicine. From the standpoint of nature cure, the essentially important “cause” of diabetes, hypertension, tuberculosis, malaria and constipation is fundamentally the same. All diseases are caused by toxicity; other factors which are both exogenous and endogenous are secondary, symptomatic and epiphenomenal. In fact, from the vantage point of nature cure, diseases are positive signs that the body is healing itself in the context of a deeply disrupted environment. To cure a disease is, counter intuitively, antithetical to the process of healing a person with reference to that person’s ecological place in the larger environment. Thus to purge toxins by means of enemas, baths, and breathing exercises, and to replace toxic food with raw unprocessed fruits, nuts, vegetables and sprouted grains, both produce good health and enable the body to properly “recover” from any particular disease or any configuration of diseases as symptomatic of an unhealthy lifestyle.

Since nature cure treatment is completely elective and only one of a spectrum of medical alternatives in contemporary India, it seems to reflect a particular structure of patient “demand” in a climate where the impress of biomedicine is heavy. The medicalization of chronic conditions is very effective, but also paradoxically very unhealthy. The widespread use of management drugs essentially lets overweight, diabetic, hypertensive patients have their cake and eat it too, so to speak. People can address symptomatic problems with drugs while not necessarily doing anything to change unhealthy habits. Over time this is not an effective way to reduce risk and promote health. And yet it is built into the structure of nonintegrated neoliberal health care.

Although there are no good data to show changes over time, it is reasonable to assume that the popularity of nature cure in India correlates closely with both the specific dimensions of India’s epidemiological transition as well as an even more precise generational bracket that corresponds to the rapid growth of the upper middle-class within the framework of this transition. Sixty years ago practitioners of nature cure in India were treating patients who presented with the symptoms of communicable diseases, and this continued through the 1960s and the 1970s. But as the burden has shifted to non-communicable chronic diseases, nature cure has become increasingly popular as a solution to medical problems that have emerged precisely because of the effectiveness of public health and political economic “solutions” to the problems of poverty, infant mortality, epidemics and malnutrition that characterized the life experience of previous generations of Indians.

Ultimately nature cure is “effective” based on factors that are at the opposite end of the spectrum of efficacy from biomedicine based on drugs, as drugs treat specific diseases and alleviate particular symptoms in individual patients. In other words, nature cure is effective at the level of public health, quite apart from the question of the particular biomedical benefits of enemas, baths and massages, as efficacy at this particular level would have to be empirically tested[61,62]. Moreover, nature cure is effective more with regard to health education, diet reform and lifestyle modification than in terms of inpatient treatment, although inpatient treatment provides an effective framework for more holistic remediation. Thus, in many ways, nature cure in India manifests many of the key features outlined by Baer for an integrative medicine that merges alternative medicine with biomedicine.

In relation to this, however, key problems in deriving greater benefit from nature cure include: (1) the problem of long-term compliance with healthy living practices that are learned during relatively short-term, inpatient treatment; how can motivation to seek treatment in facilities such as SPCYK be translated into sustained lifestyle changes that include exercise, yoga and a healthy diet? (2) nature cure treatment attracts individuals who are already sick rather than individuals for whom early preventative measures could be extremely effective; how can remedial nature cure be used to teach younger men and women about the value of early, sustained prevention based on healthy living?

Both of these problems are being directly addressed by many nature cure facilities, including SPCYK, through the development of outreach education programs targeting government service workers, corporate executives and office staff as well as teachers, children and young adults in educational institutions. Much more can and should be done, including the development of incentive schemes based on good health practices. These schemes could draw effectively on and respond to broad cultural values that articulate positively with both nature cure practice as well
as medical theories of health and disease that are based on more precise forms of empirical evidence. This could be a valuable way to leverage a policy of medical pluralism in order to help resolve a crisis of public health.

To date, most research in nature cure clinics and hospitals tends to focus on the treatment of specific diseases. Building on the overview provided in this essay, future research would be most meaningful if it is designed to evaluate the effectiveness of patient compliance and the long-term impact of relatively short-term, integrated treatment programs on lifestyle, diet and exercise. Cohort follow-up studies over several years that measure the holistic impact of particularized treatment programs, ideally including a broad sample of patients with severe chronic conditions as well as those who are overweight but not seriously ill, would provide valuable insight on the 21st century health benefits of a 19th century form of alternative medicine. Invented to treat persistent communicable diseases such as tuberculosis, nature cure has significant potential for reducing the risk for NCDs in the context of India’s ongoing public health crisis. Nature cure facilities such as SPCYK provide an important context within which to effectively promote health education in conjunction with holistic treatment based on principles that directly correlate critical public health with cultural values and individual wellness.

7 Competing interests

The authors declare no competing interests.

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