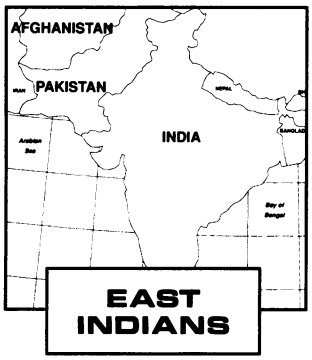
Cross-cultural Medicine
A Decade Later

- 815,000 migrants from India live in the US, mostly (35%) in the East
- Migration began around 1900, but most migrants arrived after 1965
- Although East Indian migrants come from several different ethnic groups and backgrounds, the Ayurvedic tradition of medicine is a common thread



Health, Illness, and Immigration
East Indians in the United States

JAYASHREE RAMAKRISHNA, PhD, MPH, *Bangalore, India, and*
MITCHELL G. WEISS, MD, PhD, *Boston, Massachusetts*

East Indian immigrants to the United States represent the diversity in religion, language, and culture that exists in India, so it is difficult to make unequivocal statements about their health beliefs and behaviors. Despite the diversity, an understanding of *Ayurvedic* humoral concepts of health and illness provides a key to some pervasive and persistent ideas and practices. India has a pluralistic medical system in which Western medicine, which is increasingly popular for some ailments, is one option among many. Even those who are familiar with the "Western" medical system in India may find American medicine alien.

(Ramakrishna J, Weiss MG: Health, illness, and immigration—East Indians in the United States, *In* Cross-cultural Medicine—A Decade Later [Special Issue]. West J Med 1992 Sep; 157:265-270)

The East Indian presence in the United States is about a century old. Other than occasional immigrants, the first groups of Indians, mainly Sikhs from the northern Indian state of Punjab, arrived at the turn of the century.[1] Since the 1960s immigration has increased, primarily through sponsorship.

Some of the differences in the health and illness behavior of East Indians arise from their particular beliefs and practices; other differences are the result of features common to all immigrant communities. The latter will be mentioned only in passing but deserve consideration because they influence health and illness behavior.

In this article we briefly consider the diversity in the East Indian community, identify vulnerable groups within the immigrant population, and highlight aspects of a traditional Indian medical system that affects health behavior. In the last section we discuss possible conflicts that may arise in clinical situations because of differing perspectives, values, and beliefs. Some of the generalizations and examples are derived from fieldwork one of us (J.R.) did among the Sikh farmers of Yuba City in northern California and from the other's (M.G.W.) experience in cross-cultural medicine in India and the United States.

East Indians in the United States

East Indians do not constitute a cohesive community in most parts of the United States. There are notable exceptions, however, such as the Sikh farmers of Yuba City[2-4] and the Gujaratis of San Francisco.[5] Most large cities have sizable East Indian populations of diverse linguistic and ethnic origins. Many East Indians are well educated and work in well-paying professions and businesses.

Diversity of East Indian Immigrants

As with Indians in India, it is difficult to make a statement about the East Indians in the United States without finding exceptions to the generalization. For instance, most people assume that all Indians, or at least all Hindus, are vegetarians. This is not true. Many Indians eat some meat but usually not beef; meat is not the main part of their diet. Even in those families in which meat is not prepared at home, some members, especially men, will occasionally eat meat outside the home.

India is not a monolithic society; diversity is the rule. There are 16 recognized languages in the constitution, and many others are spoken, including numerous tribal languages without written scripts. Although most of the people are Hindu (about 83%) and the Hindu ethos pervades, there are substantial numbers of Muslims (11%), Christians (2%), Sikhs (2%), Buddhists, Jains, and others. In fact, India has the second largest Muslim population of any country.

In addition to these differences, diversity among East Indian immigrants stems from several other important factors:

- *Education.* Immigrants range from barely literate peasants to highly educated scientists and professionals. Within families, too, there may be considerable variation in educational background.
- *Income.* There is much variation in income, ranging from poor, new immigrants to well-established, successful professional or business persons. Some less-educated Indians have found occupational niches in motel management and orchard farming.
- *Acculturation.* Familiarity with the English language

From the Department of Health Education, National Institute of Mental Health and Neuro Sciences, Bangalore, India (Dr Ramakrishna), and the Departments of Social Medicine and Psychiatry, Harvard Medical School, Boston, and Cambridge Hospital, Cambridge, Massachusetts (Dr Weiss).

Reprint requests to Mitchell G. Weiss, MD, PhD, Department of Social Medicine, Harvard Medical School, Boston, MA 02115.

and with American customs ranges widely—from new immigrants from rural India who speak little English, to second-generation descendants, to "Americans" with little knowledge of India and its traditions. Interaction with the larger society also differs. In rural areas, East Indian migrants might interact mainly with other East Indians, whereas professionals in cities may have little contact with other Indians. In most cases ethnic networks ease the new immigrants' transitions[6] and provide social support.

• *Reasons for immigrating.* Some people come to the United States because of opportunities to better themselves, and some come because their providers have immigrated. Migrants maintain close contacts with kin in India and may even see immigration as a temporary adventure. Other East Indians, especially those from East Africa and Fiji who have emigrated for political reasons, have little hope of returning to these countries. Also, they often have few remaining or immediate ties with India.

Vulnerable Groups

The US immigration law ensures that capable, self-reliant, and successful people immigrate to the United States. These people, however, sponsor their dependents who may be less able to prosper in this country. All have a rosy picture of the United States, and some are ill prepared for the hard work, especially the loss of status associated with service jobs. They miss the warmth of their families. Unlike professional occupations, labor-intensive businesses such as orchard farming or motel management can accommodate unskilled relatives who, once they learn the business, can branch out on their own.

Apart from the stresses and strains that all new immigrants face, immigrants who are economically or otherwise dependent are especially vulnerable because they are without traditional support networks. Two distinct subgroups of dependents are spouses and parents.

Spouses. Arranged marriages are still the norm in India. This practice continues even among some immigrants. Although an effort is made to marry within the same caste group, immigrants, who have a higher status by virtue of residence in the United States, can aspire to marry into a higher social stratum. For instance, in Yuba City an agricultural laborer might marry an urban postgraduate woman from India. She might agree to the match because the groom is in the United States, not realizing that he lives in a rural area and works on a farm. Matters are worse for her because she becomes cut off from her accustomed family support network. Similarly, an Indian engineer may marry an East Indian woman and immigrate to this country, only to find that his qualifications are not recognized and he is forced into a "demeaning" blue-collar job. The fact that traditionally the man is supposed to play the dominant role, that is, provide for and support the wife and family, increases the stress of immigration. These situations are less likely to occur in traditionally arranged marriages where liaisons are made within the same social group and the risk of conflicts arising because of differences in life-styles and expectations is minimized.

Older adults. Many older East Indians live in the United States only because their children live here. They, too, are cut off from their social support networks—their friends and relatives—and from religious activities that form a vital part of their lives. In India they would be respected for their wisdom, but in the United States, in an alien culture, they are no longer effective advisers to their families. Not knowing the language or customs of US society reduces the degree to which older Indians can guide younger family members.

Many older Indians play major roles in providing antenatal and postnatal care. Frequently female relatives travel to America specifically to assist new mothers and may reinforce traditional beliefs and customs. For instance, it is widely believed in India that colostrum is unsuited to infants. Most women think that the milk does not "descend to the breast" until their ritual bath on the third day, so newborns are fed sugar water or milk expressed from a lactating woman. Older relatives often share responsibility for child care. Conflicts can arise when their traditional ideas of child rearing and caring differ from those of the parents. These roles played by older Indians have another implication: They should be included in discussions of therapy for children and when discussing antenatal and postnatal care.

Intergenerational conflicts. Intergenerational conflicts are exacerbated in families where India-born parents retain traditional ideas and values, while their children born and brought up in the United States think and act like Americans. East Indian parents are ambivalent toward American culture: They would like their children to become American enough to succeed, but they are apprehensive the children will lose Indian values. One way of having the best of both worlds is to lead an active American public life and an essentially Indian domestic life. Many Indians in India are accustomed to compartmentalizing their lives in this way, but East Indian children in the United States may feel torn between the two cultures. Many parents fear the increasing violence and the influence of drugs in schools, so some send their children to India for schooling. When their children are older, they may arrange marriages with Indians in a bid to retain "Indianness," thus laying the groundwork for possible familial and marital conflict (A. Fernandes, "U.S. Indians' Marriages Are Now Breaking Up More Often," *The Times of India,* February 11, 1992, p 4).

The Traditional Common Ground

Despite these differences, a common thread runs through the Indian view of health and illness. Health-related behaviors are learned through early childhood socialization and derive from the traditional *Ayurvedic* (*ayur* = "longevity," *veda* = "science") principles. This forms a codified "great tradition" of medicine in Indian society, in contrast to the "little traditions" of medicine (folk medicine) that reflect local adaptations and include features that originate from specific regional cultures.[7] In addition, in India the process of social change leads "lower" castes to emulate "higher" castes by adopting their customs (such as becoming vegetarian) and even reworking the history and origin of their caste. The Indian anthropologist, Srinivas, calls this the process of "sanskritization,"[8] referring to the status of the classical Indian language, Sanskrit. Simultaneously, higher castes undergo a process of "westernization" as they seek to emulate Americans and Europeans. Remarkably compatible with such aspirations to enhance social status, "pan-Indian" Ayurvedic ideas greatly influence Indian thinking about health.

Fundamental Concepts of Ayurveda

The term "ayurveda" indicates a positive attitude toward health. An interrelationship between the universe and the

body is a fundamental principle of Ayurveda. The universe contains five elements (*pancabhuta*): water, fire, earth, wind, and ether. Three of these universal elements, *tridosa*, have analogues in the body as humors: fire (as bile), water (as phlegm), and wind (as wind).[9] When a delicate balance of these humors is achieved, a person is healthy, whereas a disturbance of this homeostatic condition causes illness.

Although blood is not mentioned in most classical texts on Ayurveda, it plays a crucial role in the maintenance of health in the Ayurvedic system of medicine. The fundamental importance of blood to health is reflected in the Ayurvedic notion that "the strength or weakness of *dhatu* (elements) depends upon the richness or poverty of blood."[10(p46)]

In Ayurveda various causes are held to vitiate the humors and, in turn, weaken the elements of the body and cause illness. Consuming certain foods that aggravate a particular humor is one of the main causes of a loss of humoral equilibrium.[11] Certain foods, such as chicken, garlic, and cloves, are considered "hot" because they increase the "heat" in the body. This has little to do with the actual taste or temperature of the food or the body. Similarly, other foods, such as yogurt, oranges, and rice, are "cold" because they make the body "cold." The nature of a given food can be changed by spicing or cooking: for example, the addition of garlic or roasting will make a food hot, while soaking it in water or mixing it with yogurt will make it cooler.

A person is healthy when the humors (wind, bile, and phlegm and the balance of hot and cold) are in equilibrium and ill when the humors are out of balance. Because the temperament or constitution of each person is unique, the exact nature of this humoral balance differs from person to person. What is an excessive humor in one person may mark a normal humoral distribution in another.

To be healthy it is necessary to have a good digestive system because it is here that the crucial transformation of food into humors and body constituents occurs. Undigested food is useless and, indeed, harmful. Ingested food is "cooked" by the digestive fires and converted into food juices and wastes. The food juices, by successive transformations, become flesh, bone, marrow, blood, and semen. These are the constituents of the body.[9] During the process of digestion, the three humors are also released into the body or into wastes. An excess or a lack of waste products results in disequilibrium, which then causes illness.

In Ayurvedic theory the key to health is an orderly daily life (*dinacharya*) in which personal hygiene, diet, work, and sleep and rest patterns are regulated. A daily routine has to be established for each person, depending on his or her constitution, and changed according to the season (*ritucharya*). Therefore, women have to be vigilant about their children's diets and the effect of particular foods on children's body constitutions. Adults have to determine carefully which habits are best suited to their health.

Ayurveda distinguishes between health in general, or ordinary health (*samanya swastham*), and ideal or ultimate health (*parameh swastham*). Although there is a distinct concept of mind and body in Ayurvedic thought, the Ayurvedic concept of health and illness is a psychosomatic one[12]; the prefix "psycho," according to the Hindu concept of health, also encompasses a spiritual aspect. Mind, body, and soul are interconnected components of a system in which malfunctioning in one component, or an upset in the relationship between the components, disturbs the harmony of the whole system. This disequilibrium causes sickness.

The Ayurvedic view of health emphasizes social, environmental, and spiritual contexts, and the key concept is harmony within the organism and within the system of which the organism is a part—that is, society at one level and the universe at a higher level. All components of health are seen as interdependent and interrelated; a change in any one component will result in an imbalance in the other components. The notion of health in Ayurvedic teachings is dynamic and involves process. Ultimately, according to Ayurvedic theory, the body and the cosmos are reflections of each other.[12]

Traditional Influences on Perceptions of Health and Illness

These Ayurvedic concepts help to explain why many East Indians are greatly concerned about everything they ingest. They place importance not only on the nutritional value of the food but also on its inherent nature—whether it is hot or cold. They are also preoccupied with the timely elimination of waste matter. Because blood is seen as the life force, created through successive transformations of food, it is perceived as precious and not something to be wasted. Hence, there is a reluctance toward the drawing and donating of blood. Because semen is the last product in the food transformations, it is more precious still. Young men may be especially anxious about a loss of semen.[13]

Although Ayurveda is the dominant tradition, there are regional variations, such as Siddha, which is more common in South India, and Unani-Tibb, which is the Arab-influenced system of medicine prevalent in the North and in other areas where there is an Islamic influence. In addition, there are local bonesetters, snake-bite curers, faith healers, and shamans. Practitioners of these systems vary in their technical knowledge and professionalism. Unlike the formal, text-based medical systems, much of the local knowledge—common medical perceptions and beliefs—is not codified or standardized[14]; therefore, great regional and idiosyncratic variations exist. This reflects the inclusive, eclectic nature of Indian culture: it readily adopts, adapts, modifies, and makes foreign elements its own.[15] Thus, German homeopathy is considered by most Indians, including some homeopathists, to be a traditional Indian medical system. This is the context of medical practice in India.

Use of Western Medicine in India

There has been considerable change, particularly in cities, since the early 1950s when Carstairs[16] and Marriot[17] wrote of the resistance of the India villager to Western medicine. "Allopathic" medicines are now readily accepted for most acute conditions. In fact, allopathy (as mainstream Western medicine is known in India) is the preferred type of care in most places where it is accessible. Resistance to or a reluctance to use Western medicine, however, cannot be ignored: Other systems of medicine are still used in India and are preferred for certain problems, including some forms of mental illness[18,19] and many chronic illnesses. In such a pluralistic medical system, allopathy (biomedicine) is just one of many kinds of medical care available.

The home management of health and illness continues. Particular attention is paid to diet, exercise, rest, and exposure to the elements, in conjunction with treatments from different medical systems. For instance, patients attending

allopathic clinics often inquire whether they should take their medication(s) with hot or cold water and whether they should include or exclude certain foods in their diets. Most successful allopathic practitioners give instructions to their patients regarding diet. A patient suffering from a cold and sore throat will be encouraged to refrain from eating cold foods, such as oranges, guavas, and grapes, and from taking cold drinks or ice cream. Among hot beverages, "hot" coffee is preferred over "cool" tea, even by many educated South Indians. Ayurvedic humoral concepts also apply to mental illness.[20,21] An elderly Sikh who had lived in America for many decades was convinced his relative's mental illness was due to excess heat resulting from an overconsumption of garlic.

Even though Indian allopathic physicians diagnose and treat ailments in accordance with Western concepts, the practice and organization of allopathic medicine are essentially Indian.[22] Some features of allopathic and Ayurvedic or other traditional hospitals in India have more in common than do allopathic Indian and American hospitals. In India, family involvement in patient care is not only recognized but expected. The family looks after the patient's needs and provides all but expert medical care. This provides vital psychological support to the patient. Visiting hours exist but are seldom adhered to; relatives may be required to stay overnight to give food and care.

Potential Conflicts

Language

Although most Indians in the United States understand some English and many are fluent, there may be considerable difference in English usage. It is often said that the English and the Americans are divided by a common language. An even deeper division exists between Americans and East Indians because the latter essentially speak Indian English with an English vocabulary. Many expressions regarding health are not easily understood by the average American. For instance, someone who is moody may be described as "his moods are off."

Besides differences in English vocabulary, a more basic problem may exist. Many expressions to describe feelings such as pain and distress are learned in early childhood in the mother tongue.[23] East Indian patients, however facile in English, may never learn the English vocabulary to express these feelings.

In addition to the misunderstandings because of differences in language, problems may arise out of patients' eagerness to please and to say "yes" even when they do not understand. This is more likely when the status differential between physician and patient is great. Even in present-day India, white people are held in high esteem. The pattern of communication between whites and Indians is determined by the feeling that Indians cannot contradict or disagree with white people of high stature.

Nonverbal communication presents problems as well. East Indian patients may not know how to respond to the American physicians' social smiles. In India smiles are only exchanged between social equals and in informal situations. In turn, an American physician may mistake the meaning of a lateral movement of the head. Instead of nodding, East Indians use head shaking to denote "yes" or to make a positive assertion. Women, who tend to be less vocal, may use these gestures to indicate their interest and response.

Those who do not understand English must speak to health professionals through an interpreter. This modified communication is fraught with hazards because a speaker's nuances and subtleties are rarely translated. In fact, interpreters may choose to edit, sanitize, or present information in a manner most acceptable to Americans. Except in areas where there are a large number of East Indians who speak the same language, such as in Yuba City, there are few, if any, official East Indian interpreters.

Social Relationships

Even in Yuba City where the health staff are well-known members of the East Indian community, patients do not want to reveal their problems.[3] Sometimes educated young members of a family are asked to translate. This can lead to complications because of role reversal: Older family members are put into subordinate roles, and youngsters may be inhibited about telling them what to do.*

This brings us to the curious paradox of confidentiality and privacy. Most East Indians seek to protect their family secrets from the rest of the East Indian community, but privacy and confidentiality within the primary group, the family, are not highly respected, especially between spouses and siblings. Women shy away from discussing sexual activity and contraceptives in the presence of men, even their own partners. Sex education is uncommon. People may not understand the terms for genital organs and sexual functioning.

Although women in India routinely consult physicians, few undergo thorough examinations. Even those who have borne children may never have had a pelvic examination. A full explanation and much reassurance are essential before a pelvic examination. Most women prefer and expect all obstetricians and gynecologists to be women.

Somatization is common.[24] Psychological distress may be expressed in this way, particularly by women.[25] New immigrants may complain of headaches, a burning sensation in the soles of the feet, and tingling pain in the lower extremities.

East Indian patients, particularly women and youngsters, will not visit a physician unaccompanied. The accompanying person expects to participate in giving the patient's history, to act as a chaperon during the physical examination, and to be actively involved in making decisions about therapeutic strategies. This may pose a dilemma for American clinicians whose training emphasizes autonomy and privacy. Mental health professionals, especially, may find it difficult and problematic to separate patient and family too early in an initial consultation.

Expectations

Expectations of a "good" physician's demeanor and behavior vary. Some East Indians think that a detailed physical examination and the gathering of a complete history are hallmarks of a good physician. Others resent in-depth inquiries about past events that they may think are irrelevant. For many Indians, time sense is elastic. Exact times, dates, and frequencies do not have the same meaning as they do for Americans. Indian patients may eagerly recount their diets, relate symptoms to changes in weather conditions, and provide other information that American physicians may consider unnecessary. Still others may swear by physicians who do not do physical examinations but prescribe simply by looking at

*See L. Haffner, "Translation Is Not Enough—Interpreting in a Medical Setting," on pages 255-259 of this issue.

the patient or by feeling a pulse—as Ayurvedic practitioners do routinely.

To some extent expectations vary according to the status of the patient. In India, patients of high status are treated as social equals and in a socially intimate manner that American physicians may consider unprofessional. Such patients expect preferential treatment—no waiting, detailed explanations, and convenient appointments. Poorer, low-status patients are accustomed to the opposite—curt behavior, social distance, long waiting periods, and little explanation.

Several Yuba City Sikhs complained of having to wait for the results of expensive diagnostic tests before their physicians treated them.[3] In India, they recollected, physicians treated patients largely on the basis of a physical examination and clinical history. This attitude may be changing as "high-tech" diagnostic laboratories proliferate in all Indian cities. Now Indian patients may feel cheated if they do not undergo tests. Some even request computed tomographic scans and electrocardiograms. Yet, most patients do not understand the need for or the nature of these tests and their use in diagnosis; many think of them as a part of therapy.

Multidrug therapy is common in India. Patients routinely receive three or four medications in addition to injections. Medication potency may be judged by its reputation and appearance. Capsules are thought to be stronger than tablets. The color of the tablets may be associated with their effects; most patients are disdainful of plain white tablets. In South India, for instance, dark-colored tablets are thought to be heating.[26] Even Ayurvedic medicine no longer comes in dull, dark-colored powders or pastes but is colorfully packaged in capsules. In addition, brightly colored vitamins, fizzy calcium pills, or vitamin B_{12} injections are prescribed. Patients do not *have* to consult a physician for medications; medicines, including most prescription drugs, are readily available over the counter, or the pharmacists are ready to prescribe them.[27,28] Medicines alone do not cure; a physician's skill and attributes matter. This "hand quality" of physicians is highly regarded: Patients often request physicians to personally hand them their medicines.

Expectations and values are not determined solely by tradition. Injections, which represent powerful interventions, are immensely popular. It is widely believed that most illnesses cannot be cured without resorting to injections[29]; hence, patients or caring family members request them. There are several explanations for this belief: Injections have rapid action and afford prompt relief; the first antibiotics were given in injection form; and because the drug is not ingested, it may not disturb the "system" as much. Physicians have encouraged this attitude toward injections because compliance is enhanced and fees increase with each patient visit. Although injections are not a part of any of the traditional Indian health systems, this method of administering medication has been widely adopted. A study in South India reported that as many as 50% of patients visiting Ayurvedic practitioners received injections[30]; another study in India showed that 86% of traditional healers administered injections.[31]

Because most Indians are concerned about the effects of whatever they ingest, they carefully monitor changes after starting any new medication to determine whether it suits their constitution.[32] Any alteration in their body functioning is attributed to the side effects of the medication. Action is taken to counteract adverse consequences; modifying the diet is the first option. If this does not work and the patient or the family thinks that the side effects are even more troublesome than the illness, the patient may stop taking the medication. This may be a problem toward the end of a regimen when patients think they have recovered.[33]

Some Indians think that Western medicines provide only symptomatic relief but do not attack the root cause of disease. Some patients think that physicians prescribe more medicine than necessary, so they save it or give it away. Hence, it is important for physicians to emphasize the need to finish a course of medication to ensure a complete cure.

Access to Care

In India the public health system is run by the state governments, and theoretically all have easy access to it. There is a strong private medical system that operates on a fee-for-service basis. Families, especially the poor, spend a high proportion of their income on medical care. In such families the male breadwinner and sons may have priority for treatment over women, girls, and elders.

Medical insurance does not exist on a wide scale, although many jobs provide medical coverage as a fringe benefit. Workers do not contribute toward this. Only recently have some insurance companies begun to popularize medical insurance. Therefore, recent East Indian immigrants to the United States may not understand the concept of health insurance and resent having to allocate a substantial portion of their meager resources to the eventuality that they might get sick and require medical care. Many also get only the basic coverage and face economic hardship if they require admission to hospital or surgical treatment.

The legal aspects of medicine in India are largely confined to medicolegal cases. Malpractice is not recognized as a breach of legal contract. On the whole, Indian patients tend to be subservient and do not openly question physicians' behavior or treatment; if they do not like a particular situation, they just change physicians. Consequently, patients who appear to be quietly compliant may simply not return to a particular practitioner. Others may be indignant about the extensive tests that most physicians use to confirm diagnoses and monitor treatment.

Indian physicians tend to be directive and give little explanation about the cause of an illness or the course of treatment. Most East Indian patients in the United States appreciate the information that physicians give, but some consider it excessive. The attitude of accompanying persons depends on their social status and role in the family—how responsible they are for a person's welfare. Again, most patients and chaperons like being involved in decision making, but a few may prefer physicians to just tell them what to do.

Families are especially protective of an ill member; they do not want to disclose the seriousness of an illness to the patient or speak about impending disability or death for two reasons: Speaking of possibilities may render them too real, and a traditional Indian does not speak lightly of death; and many people think that if a patient knows the gravity of the illness, he or she will give up hope and die. This conflict between medical ethics and patients' values may present a dilemma to physicians. There are no easy answers to these potentially difficult situations or conflicting values, but as research in Yuba City showed,[3] if medical interventions are perceived to be efficacious, people accept them. For example, women who traditionally gave birth at home and strictly

followed the associated rituals found some aspects of giving birth at a hospital traumatic—being isolated from female kin, having to drink "cold" orange juice, and having to walk soon after birth. Nevertheless, they readily acknowledged that there had been deaths at childbirth at home, and therefore in-hospital medical care is good.

As medical care in India becomes more sophisticated, biomedical diagnostic and treatment measures will hold no surprises for East Indian patients. The organization of medical practice, however, will remain sufficiently different that a special effort will be required on the part of patients and health professionals to ensure appropriate and satisfactory health care for East Indian immigrants in the United States.

REFERENCES

1. Jacoby H: Some demographic and social aspects of early East Indian life in the United States, *In* Juergensmeyer M, Barrier G (Eds): Sikh Studies: Comparative Perspectives on a Changing Tradition—Berkeley Religious Studies Series. Berkeley, Calif, Lancaster-Miller, 1978, pp 159-171

2. Wenzel LA: The rural Punjabis of California: A religo-ethnic group. Phylon [The Atlanta University Review of Race and Culture] 1968; 29:245-256

3. Ramakrishna J: Health Behavior and Practices of the Sikh Community of the Yuba City Area of California—dissertation. Berkeley, Calif, University of California, 1979

4. La Brack B: The Sikhs of Northern California: A Socio-historical Study—dissertation. Syracuse, NY, Syracuse University, 1980

5. Jain UR: The Gujaratis of San Francisco—thesis. Berkeley, Calif, University of California, 1964

6. Flueret AK: Incorporation into networks among Sikhs in Los Angeles. Urban Anthropol 1974; 78:773-782

7. Redfield R, Singer MB: The cultural role of cities. Econ Dev Cult Change 1954; 3:53-73

8. Srinivas MN: Religion and Society Among the Coorgs of South India. London, England, Oxford University Press, 1952

9. Obeyesekere G: The impact of Ayurvedic ideas on the culture and the individual in Sri Lanka, *In* Leslie C (Ed): Asian Medical Systems: A Comparative Study. Berkeley, Calif, University of California Press, 1976, pp 201-226

10. Kutumbiah P: Ancient Indian Medicine. Bombay, India, Orient Longman, 1960

11. Pool R: Hot and cold as an explanatory model: The example of Bharuch district in Gujarat, India. Soc Sci Med 1987; 25:389-399

12. Udupa KN: The Ayurvedic system of medicine in India, *In* Newell KN (Ed): Health by the People. Geneva, Switzerland, World Health Organization, 1975, pp 53-69

13. Bottero A: Consumption by semen loss in India and elsewhere. Cult Med Psychiatry 1991; 15:321-359

14. Unschuld PU: The medico-cultural conflict in Asian settings: An exploratory theory. Soc Sci Med 1975; 9:303-312

15. Leslie C: The ambiguities of medical revivalism in India, *In* Asian Medical Systems: A Comparative Study. Berkeley, Calif, University of California Press, 1976, pp 356-367

16. Carstairs GM: Medicine and faith in rural Rajasthan, *In* Paul BD (Ed): Health, Culture, and Community. New York, NY, Russel Sage Foundation, 1955, pp 107-134

17. Marriot M: Western medicine in a village of northern India, *In* Paul BD (Ed): Health, Culture, and Community. New York, NY, Russel Sage Foundation, 1955, pp 239-268

18. Kapur RL: The role of traditional healers in mental health care in rural India. Soc Sci Med 1979; 13(B):27-31

19. Kakar S: Shamans, Mystics and Doctors: A Psychological Inquiry into India and Its Healing Traditions. New York, NY, Alfred Knopf, 1982

20. Weiss MG, Desai A, Jadhav S, et al: Humoral concepts of mental illness in India. Soc Sci Med 1988; 27:471-477

21. Weiss MG, Sharma SD, Gaur RK, Sharma JS, Desai A, Doongaji DR: Traditional concepts of mental disorder among Indian psychiatric patients: Preliminary report of work in progress. Soc Sci Med 1986; 23:379-386

22. Madan TN: India: Doctors at the All India Institute of Medical Sciences, *In* Doctors and Society: Three Asian Case Studies. Ghaziabad, Uttar Pradesh, India, Vikas Publishing House, 1980

23. Pugh JF: The semantics of pain in Indian culture and medicine. Cult Med Psychiatry 1991; 15:19-44

24. Nichter M: Idioms of distress: Alternatives in the expression of psychosocial distress: A case study from south India. Cult Med Psychiatry 1981; 5:379-408

25. Skultans V: Women and affliction in Maharastra: A hydraulic model of health and illness. Cult Med Psychiatry 1991; 15:321-359

26. Nichter M: Lay perceptions of medicine: A south Indian case study, *In* Anthropology and International Health. Dordrecht, The Netherlands, Kluwer Academic, 1989, pp 187-213

27. Greenhalgh T: Drug prescription and self-medication in India: An exploratory survey. Soc Sci Med 1987; 25:307-319

28. Tomson G, Sterky G: Self-prescribing by way of pharmacies in three Asian developing countries. Lancet 1986; 2:620-622

29. Reeler AV: Injections: A fatal attraction? Soc Sci Med 1990; 31:1119-1125

30. Alexander C, Shivaswamy MK: Traditional healers in a region of Mysore. Soc Sci Med 1971; 5:595-601

31. Bhatia JC, Vir D, Timmappaya A, Chuttani SC: Traditional healers and modern medicine. Soc Sci Med 1975; 9:15-21

32. Sachs L, Tomson G: Medicines and culture—A double perspective on drug utilization in a developing country. Soc Sci Med 1992; 34:307-315

33. Barnhoorn F, Adriaanse H: In search of factors responsible for noncompliance among the tuberculosis patients in Wardha district, India. Soc Sci Med 1992; 34:291-306