



Roads to Health in Developing Countries: Understanding the Intersection of Culture and Healing



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ABSTRACT

Background: The most important attribute to which all human beings aspire is good health because it enables us to undertake different forms of activities of daily living. The emergence of scientific knowledge in Western societies has enabled scientists to explore and define several parameters of health by drawing boundaries around factors that are known to influence the attainment of good health. For example, the World Health Organization defined health by taking physical and psychological factors into consideration. Their definition of health also included a caveat that says, “not merely the absence of sickness.” This definition has guided scientists and health care providers in the Western world in the development of health care programs in non-Western societies.

Objective: However, ethnomedical beliefs about the cause(s) of illness have given rise to alternative theories of health, sickness, and treatment approaches in the developing world. Thus, there is another side to the story.

Method: Much of the population in developing countries lives in rural settings where the knowledge of health, sickness, and care has evolved over centuries of practice and experience. The definition of health in these settings tends to orient toward cultural beliefs, traditional practices, and social relationships. Invariably, whereas biomedicine is the dominant medical system in Western societies, traditional medicine—or ethnomedicine—is often the first port of call for patients in developing countries.

Results: The 2 medical systems represent, and are influenced by, the cultural environment in which they exist. On one hand, biomedicine is very effective in the treatment of objective, measurable disease conditions. On the other hand, ethnomedicine is effective in the management of illness conditions or the experience of disease states. Nevertheless, an attempt to supplant 1 system of care with another from a different cultural environment could pose enormous challenges in non-Western societies.

Conclusion: In general, we, as human beings, are guided in our health care decisions by past experiences, family and friends, social networks, cultural beliefs, customs, tradition, professional knowledge, and intuition. No medical system has been shown to address all of these elements; hence, the need for collaboration, acceptance, and partnership between all systems of care in cultural communities. In developing countries, the roads to health are incomplete without an examination of the intersection of culture and healing. Perhaps mutual exclusiveness rather inclusiveness of these 2 dominant health systems is the greatest obstacle to health in developing countries.

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Introduction

The goal of this article is to challenge some of the popularly held assumptions about health, sickness, and care by profiling the relevance of culture in healing activities. It attempts to expand our understanding of the characteristics of 2 competing approaches to health care that originate in different cultural environments.

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The cultural context of health care

Health care activities do not occur in a vacuum in any society. They involve relationships between client and healer, social norms, and individual behavior. Therefore, health care activities and associated support systems are rooted in the cultural environment of the society in which they exist and are sustained. As a result, all activities of daily living, including the structure and processes designed to address health, sickness, and care are classes of events—whether or not a particular activity, behavior, or experience is viewed by members of a society as a sign or symptom of sickness—depends on social norms, cultural values, and culturally shared rules of interpretation. In other words, a biological process observed in 1 culture may be given a different meaning and interpretation in another culture. For example, in the Western world, obesity is viewed in the culture of biomedical science as a precursor to adverse health conditions.¹ Among the Ibibio and Erik tribes of Nigeria, women are deliberately fattened in seclusion to ensure fertility before marriage.^{2,3} In some cultures, obesity may be viewed as evidence of wealth and good living.⁴ In the Western world, the act of staring into space in a group setting may be viewed as being lost in thought.⁵ In some parts of the developing world, the same act may be viewed as evil eye^{6–8} that could produce an adverse health condition in the direction of the stare. An individual who sits in the direction of the stare may be considered the target of the evil eye.

The 2 cultures

The predominant culture that governs health and health care activities in the Western world is scientific rationality or the biomedical model.^{9,10} The assumptions of the model are so deeply ingrained in the ways of thinking in Western medicine that health care workers tend to forget that it is a conceptual model or a way of thinking about the world. In the Western world, the biomedical model is generally assumed as a picture of reality rather than as a representation. Over time, patients and practitioners of Western medicine have internalized several assumptions about the practice and delivery of health services, which they advocate for non-Western societies through development programs. These assumptions have several limitations and implications for other cultures.¹⁰

The assumption of measurement

Modern medicine assumes that disease can be fully accounted for by deviations from the norm of measurable biological variables.^{11,12} The reality is that at the level of the individual we may be created equal, but we are not created the same. For example, for osteoporosis in women, biomedicine pushed calcium intake, which generally means that women should drink more milk. However, about 80% of South Asian women are lactose intolerant.¹³ We cannot consider them the same as everybody else and give them the same foods. In this case, they have a different biological system. When biomedicine uses the same chart for height and weight to monitor the growth of children, it runs the risk of telling mothers from ethnically smaller cultures that their children are not growing and should be investigated. Some diseases are inherited or prevalent in certain societies. For example, we find Tay-Sachs disease among Jews,¹⁴ sickle cell disease among blacks,¹⁵ and thalassemia mostly among Italians.^{16,17} We must find complementary alternatives to biomedicine in ethnic communities, and we cannot depend entirely on measurement for all illness, especially in non-Western societies.

Defining and labeling disease

In the Western world, disease is usually defined as a deviation from a biological norm. The average value of a variable for some specified population may not correspond to an ideal standard. The specific characteristics of populations and their life situations are critical to understanding, labeling, and interpreting the significance of average values and of deviations from presumed universal standards of health. In 1 experiment,¹⁸ 75% of British psychiatrists diagnosed a group of Latin American patients as having psychiatric problems. Ninety percent of Latin American psychiatrists from the same culture as their patients found the same group of patients to be normal. This emphasizes the need to recognize that there are cultural boundaries in disease definition and diagnosis.¹⁹ Given the natural range of variability of structure and function in any population, the term *normal*,^{20,21} so often used in medicine and biology, might better be expressed in terms of variability than as a hypothetical average or standard.²² What is good for the goose in Western society may not be good for the gander in the developing world.

The doctrine of specific etiology

This section will discuss the doctrine of specific etiology.^{23,24} The biomedical model presupposes that there are specific diseases, each associated with a specific biological process, and that the cause is biologically specific. In other words, biomedicine assumes that each disease has a specific cause. The assumption stems from germ theory²⁵ following the work of Pasteur and Koch in the 19th century. The assumptions of specific etiology^{23,24} hold that when a disease condition has progressed from a behavioral framework of signs and symptoms to a biochemical abnormality, such as is the case with diabetes mellitus. However, the assumption of specific etiology does not seem to hold when the scientific characterization of a disease is less advanced, as in the example of schizophrenia.^{18,26} The cause of schizophrenia may not be as clear-cut as the cause of diabetes mellitus. The process of differential diagnosis is often used when signs and symptoms of different disease conditions mirror each other.

The assumption of generic diseases

Disease symptoms and processes are expected to be the same in different periods, cultures, and societies. The biomedical model postulates that each disease has specific and distinguishing features that are universal to the human species. In other words, diseases found in modern Western society provide a standard taxonomy for all human beings just as natural elements are represented by the standard table of atomic weights in chemistry. The assumption is not always true in reality. For example, of a sample of 811 patients diagnosed with schizophrenia by psychiatrists from different cultures who were trained to follow a standard diagnostic procedure, only 306 patients (37%) were found to be concordant on all criteria.¹⁸ These observations lead to the conclusion that biomedicine constitutes a specific cultural perspective of the Western world about what disease is and how medical treatment should be pursued. It is an interpretation that makes sense in the light of cultural traditions and assumptions about reality.²⁷

The doctrine of scientific neutrality

The self-image advanced by practitioners of Western medicine reflects a view of a discipline that has not only adopted the rationality of scientific method, but also the concomitant values of objectivity and neutrality of the scientist. But the scientific

values of objectivity and neutrality are difficult to achieve in reality.²⁸ The practice of medicine, and indeed the work of all health care providers, is not independent of the larger society. Rather, healing practice is embedded within society and nurtured by the prevailing culture, politics, and social norms of that society. The principal social function of medicine in Western society is the regulation and control of 1 type of deviance; namely, sickness. In carrying out this function, physicians have been granted by society the right to define the criteria of sickness and to determine appropriate treatment. This is true of all societies, including the developing world where traditional healers are also granted customary rights to detect and control illness conditions.

The sociocultural model or ethnomedicine

Another conceptual representation of reality is ethnomedicine or the sociocultural model²⁷ observed primarily in non-Western societies. Illness is defined primarily as a disturbance in social relationships. Questions about the cause of illness are framed with reference to social rather than biological processes. For example, a traditional healer in some parts of Africa would spend a lot of time with his client exchanging greetings and responding to questions about the well-being of family members. The extensive greetings and inquiries are designed to elicit information about existing social bonds and relationships, which could form the basis for treatment or advice. Much like the biomedical model, the assumptions of the sociocultural model are also deeply ingrained in the customs and traditions of the developing world. Both models define, classify, and specify relationships among health-related events in particular ways.

Assumptions of the sociocultural model or ethnomedicine

There are 2 major assumptions in ethnomedicine that pertain to the causality of disease and the health system as well as in the explanation of disease processes.²⁹ They may be referred to as the personalistic and naturalistic explanations of causality and process of illness conditions.

Personalistic system

The cause of illness is believed to result from the purposeful intervention of an agent such as a supernatural being; for example, a deity or a god; a nonhuman being, such as a ghost, ancestor, or evil spirit; or a human being such as a witch or sorcerer. The general belief is that the sick person is a victim, the object of aggression or punishment directed specifically against him for reasons that concern him alone. The victim must have done something to provoke the gods, evoke hatred or jealousy, or behaved in ways that contradict accepted customary practices and tradition. The Abbron people of Ivory Coast believe that people sicken and die because some power has acted against them.³⁰ There is no concept of accident. Falling from a coconut tree is viewed as the result of a supernatural agent acting against an individual. The belief in personalistic causes of disease is found mostly in the Americas, much of Africa (south of the Sahara desert), much of Oceania, and some of the tribal peoples of Asia.^{31,32}

Naturalistic system

The naturalistic system explains illness in systemic, impersonal terms. Natural systems are believed to conform to an equilibrium model. Good health is achieved when the insensate elements in the body such as heat, cold, the *humor* or *dosha* in South India, the *yin* and *yang* in China, are in balance appropriate to the age and condition of the individual in his natural and social environment.

Illness results when this equilibrium is upset, from within or from without, by natural causes, such as heat or cold or sometimes strong emotions.³³ Belief in naturalistic causes of illness is found mostly among the people of South India and China.

Ethnomedical healing systems

Beliefs in the naturalistic or the personalistic causes of disease are not mutually exclusive. People who believe in personalistic causes to explain most illness conditions also recognize some chance of natural causes. Although there is some overlap, most believers conform to 1 or the other explanatory principles to account for most illnesses. However, ethnomedical beliefs about the cause(s) of illness have given rise to alternative theories of health, sickness, and treatment approaches in the developing world. Alternative approaches to health care are found in Western and non-Western societies to varying degrees. More importantly, immigrants to Western societies do not generally divest themselves from previously held ethnomedical beliefs about health, sickness, and care.³⁴ Some of the alternative approaches include humoral theory and pathology; Ayurvedic medicine; traditional Chinese medicine; American Folk medicine, which includes Euro-American and African-American folk medicines; and Spanish-American folk medicine among others. A brief examination of 3 of these approaches follows.

Humoral theory of health and sickness

Humoral pathology asserts that the human body contains 4 humors, blood, phlegm, yellow bile, and black bile, which make up its constitution and cause pain and health.^{8,35} Health is primarily that state in which these constituent substances are in the correct proportion to each other, both in strength and quantity and are well mixed. Pain occurs when 1 of the substances presents either a deficiency or excess or is separated in the body and not mixed with others. The 4 humors vary in quantity during the year depending on climate and weather. Because of these annual seasonal variations, it is reasonable to expect most diseases to occur only during certain times of the year. Treatment is applied in concert with seasonal changes. Diseases caused by overeating are cured by fasting, those caused by exertion are cured by rest, and those caused by indolence are cured by exertion. In general, the treatment approach involves the principle of opposition. Biomedicine sometimes utilizes the principle of opposition in treatment. However, it does not provide a satisfactory substitute for those who believe in humoral explanations of health and disease because of different theories of pathology. But this is exactly what Western donors try to do in international development. International development agencies and institutions must find ways to reconcile both approaches and recognize the importance of each approach to the culture of some non-Western countries.

Ayurvedic medicine

In parts of modern India that practice Ayurvedic medicine,³⁶ many foods are thought to have heating or cooling qualities as in humoral pathology. The right combination of foods and herbs can restore the proper balance when the body equilibrium has been disturbed. *Garam* or hot foods include eggs, meat, milk, dahl, honey, and sugar. *Tonda* or cold foods include fruit, yogurt, acid buttermilk, rice, and water.³⁷ These beliefs are rooted in Ayurvedic medicine primarily in Sri Lanka and South India. The Ayurvedic theory postulates that the universe is composed of the same 4 elements recognized by ancient Greeks: earth, water, fire, and air, plus a fifth element, ether. The arrangement of these elements in the body represents a microcosm of the universe. The human body also has 3 *humours* or *doshas* comprising phlegm or mucus,

bile or gall, and wind or flatulence. Good health exists when the 3 *doshas* are in equilibrium. Ill-health manifests when 1 or more of the *doshas* are not functioning properly.^{38,39} The *doshas* are also associated with age and the seasons: phlegm with youth and growing season, bile with middle age and the rainy season, and wind or flatulence with old age and cold and dry weather.⁴⁰ The Government of Sri Lanka recognizes Ayurvedic medicine. It is accorded the same status as Western medicine in every respect. Practitioners of Ayurvedic and Western medicine practice side by side in most jurisdictions in Sri Lanka and South India. To supplant Ayurvedic medicine with Western medicine in these jurisdictions would be difficult. Yet that is what development experts try to do. The challenge is how to integrate the benefits of Western and Ayurvedic models of health care for the good health of the people of Sri Lanka and South India.

Traditional Chinese medicine

Traditional Chinese medicine is believed to represent the central control of Chinese cosmology or the dual forces of *yin* and *yang*, whose continual interaction lies behind all natural phenomena, including the functioning of the human body.⁴¹ *Yin* and *Yang* are believed to be the primordial elements from which the universe evolved.⁴² *Yang* represents all the good and positive elements such as heaven, the sun, fire, heat, dryness, light, the male principle, the exterior, the right side, life, high, noble, good, beautiful, virtue, order, joy, and wealth. *Yin* represents the opposite, such as earth, the moon, water, cold, dampness, darkness, the female principle, the interior, the left side, death, low, ignoble, bad, ugly, vice, confusion, and poverty. Because of its heat, excessive *yang* causes fever. Because of its coldness, excessive *yin* causes chills resulting in *yin* or *yang* diseases. In fact, every human being is considered a single entity in which positive and negative influences are combined.

Traditional African medicine

Illness has many causes in many African cultures, which include disturbance of social relationships, spirits, supernatural forces, and deliberate poisoning. In some parts of Africa, dead ancestors may play a part in the healing process. The Igbo and Yoruba tribes of Nigeria believe in reincarnation.^{43,44} Children and adults who are mentally challenged may be regarded as possessed by spirits and deified. Among the Ibo tribe of Nigeria, some children with culturally unique behavior traits are considered reincarnated individuals who may not live long on the earth. They reincarnate repeatedly to punish the parents for some wrongdoing. They are called *ogbanje* by the Igbo tribe or *Abiku* by the Yoruba tribe. A perfectly healthy finger is sometimes amputated to save or prolong a child's life. Traditional healers or so-called native doctors specialize in the prediction, detection, prevention, and treatment of illnesses using culturally sanctioned methods, herbs, incantation, and soothsaying. In Asia, Africa, and Latin America, alternative health care to biomedicine is the prevailing approach to problems of ill health in rural communities. Traditional healers have provided health care to citizens in non-Western societies for centuries before the advent of Western medicine. To ignore their contribution to health care is to ignore the culture of the environment in which they live and function. Regardless of the level of education and social status, the majority of the population in developing countries subscribes to traditional or culturally based health care even when there is access to biomedicine.⁴⁵

What is health?

The most important attribute for which all mankind aspires is good health because it enables us to live, enjoy life, go to work, go to school, participate in sports, engage in hobbies, contribute to

society, fulfill dreams, and undertake different forms of activities of daily living. The emergence of scientific knowledge in Western societies has enabled us to explore and define several parameters of health by drawing boundaries around factors that are known to influence the achievement of good health. For example, the World Health Organization defined health by taking physical and psychological factors into consideration.⁴⁶ The definition of health also included a caveat that says, "Not merely the absence of sickness."⁴⁶ This definition has guided scientists and health care providers in the Western world in the development of health care programs in non-Western societies.

There is another side to the story. Much of the global population in developing countries live in rural settings where the knowledge of health, sickness, and care has evolved over centuries of practice and experience. The definition of health in these settings tends to orient toward cultural beliefs, traditional practices, and social relationships. The ability to get up in the morning and provide for the family becomes more important than the abstract measures of well-being in Western societies. Greater importance is accorded to the role an individual fulfills in the community; for example, as an elder, a priest, a farmer, a homemaker, and so on. A husband is able to provide for the family if he is healthy. A wife who is unable to bear a child may be seen as possessed or cursed by an evil spirit because some cultures expect a healthy wife to bear many children. In other cultures, wealth is measured by the number of children in a household because they grow up to provide many hands on the farms. Sometimes, opulence and status in the community may be measured by the number of wives to a husband, because a healthy and wealthy husband has the capability to provide for many wives. For the Navaho Indian tribe, health is symptomatic of a correct relationship between man and his supernatural environment, the world around him, and his fellow man. Health is associated with good, blessing, beauty, and all that is positively valued in life. Illness, on the other hand, is symbolic evidence that one has fallen out of this delicate balance.^{47,48}

The ability to get up in the morning and provide for the family is not unique to rural areas in developing countries. People also aspire to get up in the morning and provide for their families in developed countries. The difference is the degree of emphasis and relative importance accorded to activities of daily living in the 2 worlds. Culture and science operate with different emphasis in the 2 worlds. For example, there are different mechanisms in place in Western societies to hospitalize the sick. In most developing countries, families and not the state are expected to take care of the sick. Ideologically, individuals can maintain their earning capacity during sick leave and pregnancy in the Western world. Culturally, extended family members are expected to provide for the sick in the rural areas of developing countries. There are banks to save and store surplus cash for the future in one world, whereas such a facility is replaced in some developing countries with small-scale barns for food storage during periods of scarcity. In 1 world, the state provides for the indigent, sometimes regardless of health status. In another world, there may be no such provision. Therefore, and for reasons of effectiveness in the delivery of Western-style health services in the developing world, health may be defined actively as the ability of an individual to fulfill his or her social obligations in accordance with the prevailing beliefs and cultural environment.

The health care system

A health care system is concerned with the ways in which societies organize to care for the sick and utilize the knowledge of disease to assist patients. It reflects the logical and philosophical characteristics of the disease causality or medical systems with

which it is linked. The state influences the ideological orientation of a society's health care system. It is the medical system that dictates many of the decisions that are made and action taken by the participants in the sick room drama.

The health care system of every society comprises 3 sectors: the popular, the folk, and the professional sectors.^{49,50} The popular sector is the largest component—75% of every health care system⁵¹—and consists of what we do for ourselves when we are sick and what families do for us, our social networks, and communities. Most health maintenance and care are undertaken in the popular sector. The greatest amount of health care expenditure takes place in this sector. The folk sector includes specialists, nonprofessionals, nonbureaucratized, and often quasilegal and sometimes illegal forms of care, based on various folk health cultures that shade imperceptibly into professional practice on 1 side, and popular care on the other side. The sector is frequently unlicensed or minimally regulated. It represents a larger component of health service than biomedicine in many non-Western societies. It is found among many ethnic communities in Western societies.⁴⁹ The professional sector includes the health service professions and bureaucracies that base clinical practice on complex professional health service cultures. It includes biomedicine and Ayurvedic medicine in India and Sri Lanka; biomedicine and Chinese traditional medicine in China; or biomedicine, chiropractic, optometry, osteopathy, and naturopathy in the United States and Canada. In some African countries, governments have begun to recognize the important role traditional medical practitioners play in their health care system, especially in the rural areas. Native doctors by inheritance receive such recognition in Nigeria.

Medical systems

A medical system is a system of care with its theory of disease, how to treat, care, and rehabilitate sick persons.⁵² In every society, there are multiple or plural medical systems with different theories of disease. Biomedicine is a medical system that subscribes to the prevailing culture of science in the Western world. Other medical systems in the Western world, such as chiropractic, naturopathy, and osteopathy, also subscribe to the culture of science, but with a different interpretation, emphasis, and paradigm. No medical system represents the health care system of any country in totality because clients and patients can choose which of the medical systems best address their particular illness condition. It is not uncommon for clients and patients to subscribe to different medical systems in Western and non-Western societies. As a result, professional conflict and competition may arise among different medical systems, especially when we attempt to replace 1 belief system with another in developing countries.⁵³

A medical or disease theory system embraces beliefs about the nature of the illness, the causes of illness, and the nature of treatment techniques used by healers. In contrast, a health care system is a social institution that involves the interaction of a number of people, minimally the client/patient and the healer. It is an ideational, conceptual system, an intellectual construct, and a part of the cognitive orientation of the members of the group. It deals with classification, explanation, and cause and effect. Only people in other societies who believe that the underlying explanatory premises are wholly or partly contrary to fact or experience can think of disease causality systems as irrational. The 2 systems are not the same despite their closeness. Unfortunately, the biomedical system of disease theory has frequently been confused with the health care system of a society in the Western world. Every culture has developed a system of medicine that bears an indissoluble and reciprocal relationship to the prevailing worldview. The medical behavior of individuals and groups is incomprehensible apart from their general cultural history.^{54,55}

Sickness, Illness, and Disease

Disease and illness are 2 different components of sickness. Somehow, both entities are regarded as the same and interchangeable. The disease is the objective measurable aspect of sicknesses such as germs, a broken leg, cancer, and other identifiable infestations of the human body. In other words, pathoorganisms and detectable malfunctions of the human body are real. They result in diseases for which biomedicine has fulfilled curative and heroic functions. On the other hand, illness is culturally defined and represents the experience of disease, which varies from culture to culture. Although biomedicine has been very successful in the treatment of diseases, it has not been as successful in the treatment of illness conditions due to the lack of human touch and attention to the sociocultural environment of the client. The most important thing that traditional healers remember is that the patient is, first of all, a person, with a network of social relationships that could possibly influence the healing process.

Healers in non-Western societies

Healers in all medical systems fulfill gate-keeping functions by identifying the sick, separating them from the larger society and applying sanctions and treatment as appropriate. In most countries in Africa, the traditional healer occupies a prominent role in society sometimes as a judge, custodian of cultural norms, entertainer, and adviser to the ruler and elders.⁵⁶ Among the Ogoni people of Nigeria, illness is dealt with essentially by righting the patient's life situation and his relationship with people with whom he is most intimately concerned. The individual's illness is presented as a vital concern of the collective body.⁵⁷ A Ndembu healer in Zambia summons the kin of a sick person to a shrine where they are induced to confess any grudges or hard feelings they may harbor against the patient. Similarly, the patient is also persuaded to ventilate any hostility he has been incubating before the treatment process can begin.⁵⁸

Conclusions

The concepts of health, disease, and care differ in many respects in Western and non-Western cultures. Each concept contributes to the well-being of the society it serves. The health care system conforms to the cultural environment of the society in which it exists and comprises many medical systems from which a dominant system may emerge. Biomedicine is the dominant medical system in Western societies. Traditional medicine or ethnomedicine is often the first port of call for patients in developing countries. The 2 medical systems represent and are influenced by the cultural environment in which they exist. On one hand, biomedicine is very effective in the treatment of objective, measurable disease conditions. On the other hand, ethnomedicine is effective in the management of illness conditions or the experience of disease states. Although disease theories may differ, clients or patients subscribe to many medical systems depending on availability, cultural beliefs, and expectations. There are advantages and disadvantages to the services provided by a medical system. Nevertheless, an attempt to supplant 1 system of care with another from a different cultural environment could pose enormous challenges in non-Western societies. Some form of partnership and recognition of mutual benefits could lead to positive health care outcomes for target populations in developing countries. In general, we, as human beings, are guided in our health care decisions by past experiences, family and friends, social networks, cultural beliefs, customs, tradition, professional knowledge, and intuition. No medical system has been shown to address

all of these elements; hence, the need for collaboration, acceptance, and partnership between all systems of care in cultural communities. In most developing countries, the roads to health, is incomplete without an examination of the intersection of culture and healing. Perhaps mutual exclusiveness rather inclusiveness of these 2 dominant health systems is the greatest obstacle to health in developing countries.

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Conflicts of Interest

Dr. Sam Ibeneme has received Fellowship grants from the Ministry of Science, Lower Saxony State, Germany.

Dr. Eni consulted or advised governments, NGOs, and multi-national organizations in 19 countries in Africa, South-East Asia, Australia, the Caribbean, and Eastern Europe in health system reform, health service delivery, community health, primary health care, child immunization, women's health, project planning and implementation, health policy, curriculum development, and health service administration. He was also an International Health Consultant and Principal, Hexagon and Eni Consulting, Vancouver, BC, 1996–2007.

References

- Bhaskaran K, Douglas I, Forbes H, dos-Santos-Silva I, Leon DA, Smeeth L. Body-mass index and risk of 22 specific cancers: a population-based cohort study of 5–24 million UK adults. *Lancet*. 2014;384(9945):755–65.
- Brink PJ. The fattening room among the Annang of Nigeria. *Med Anthropol*. 1989;12(1):131–43.
- Brink PJ. Fertility and fat: the Annang fattening. *Soc Aspects Obes*. 1995;1:71.
- Caspersen CJ, Powell KE, Christenson GM. Physical activity, exercise, and physical fitness: definitions and distinctions for health-related research. *Public Health Rep*. 1985;100(2):126–31.
- Shor RE. The frequency of naturally occurring 'hypnotic-like' experiences in the normal college population. *Int J Clin Exper Hypnosis*. 1960;8(3):151–63.
- Neiman S. *Evil in Modern Thought: An Alternative History of Philosophy*. Princeton, NJ: Princeton University Press; 2015.
- Thomsen M-L. The evil eye in Mesopotamia. *J Near East Studies*. 1992;51(1):19–32.
- Molina AI. The evil eye as a folk disease and its Argentine and Ibero-American historical explanatory frame. *West Folklore*. 2016;75:1.
- Engel GL. The need for a new medical model: a challenge for biomedicine. *Holistic Med*. 1989;4(1):37–53.
- Risberg G, Hamberg K, Johansson EE. Gender perspective in medicine: a vital part of medical scientific rationality. A useful model for comprehending structures and hierarchies within medical science. *BMC Med*. 2006;4(1):1.
- SenGupta S, Hopson R, Thompson-Robinson M. Cultural competence in evaluation: an overview. *New Directions Eval*. 2004;102:5–19.
- Mishler EG. Viewpoint: critical perspectives on the biomedical model. *Social Contexts Health Illness Patient Care*. 1981;1:23.
- Vesa TH, Marteau P, Korpela R. Lactose intolerance. *J Am Coll Nutr*. 2000;19(Suppl 2):165S–75S.
- Lew RM, Burnett L, Proos AL, et al. Ashkenazi Jewish population screening for Tay-Sachs disease: The International and Australian experience. *J Paediatr Child Health*. 2015;51(3):271–9.
- Smeltze MP, Nolan VG, Yu X, et al. Birth prevalence of sickle cell trait and sickle cell disease in Shelby County, TN. *Pediatr Blood Cancer*. 2016;63(6):1054–9.
- Conte R, Ruggieri L, Gambino A, et al. The Italian multiregional thalassemia registry: centers characteristics, services, and patients' population. *Hematology*. 2016;21(7):1–10.
- Pepe A. Deferiprone cost saving for iron overload in thalassaemia. *Pharmacoecon Outcomes News*. 2016;745:14–30.
- World Health Organization. *Report of the International Pilot Study of Schizophrenia, Vol 1*. Geneva, Switzerland: World Health Organization; 1973.
- Westermeyer J. Psychiatric diagnosis across cultural boundaries. *Am J Psychiatr*. 1985;142(7):798–805.
- Ryle JA. The meaning of normal. *Lancet*. 1947;249(6436):1–5.
- Ryle J. The meaning of normal. In: Lush B, ed. *Concepts of Medicine*. New York, NY: Pergamon Press; 1961:2.
- Fraser GG, Harris EK. Generation and application of data on biological variation in clinical chemistry. *Crit Rev Clin Laboratory Sci*. 1989;27(5):409–37.
- Dubois R. Doctrine of specific aetiology. www.ucalgary.ca. Accessed 06.06.16.
- Dubois R. *The Mirage of Health*. New York, NY: Anchor Books; 1961:131.
- Stewart GT. Limitations of the germ theory. *Lancet*. 1968;291(7551):1077–81.
- Masi R. *Health: cultural perspectives, cultural realities*. In: *Proceedings of the Multicultural Health Symposium*. Vancouver, BC, Canada: Press Gang Printers; 1989, 4–5.
- Fabrega H Jr. The need for an ethnomedical science. *Science*. 1975;189:169–75.
- Harding S. After the neutrality ideal: science, politics, and strong objectivity. *Social Res*. 1992;567–87.
- Foster GM, Anderson BG. *Medical Anthropology*. New York, NY: John Wiley & Sons; 1978.
- Alland A Jr. *Adaptation in Cultural Evolution: An Approach to Medical Anthropology*. New York, NY: Columbia University Press; 1970, 161.
- Teixidor-Toneu I, Martin GJ, Ouhammou A, et al. An ethnomedicinal survey of a Tashelhit-speaking community in the High Atlas, Morocco. *J Ethnopharmacol*. 2016;188:96–110.
- Kuschik I. Spanish folk medicine in discussion: the body concept. *Arxiu d'Etnografia de Catalunya*. 2016;7:152–69.
- Erickson PI. The healing lessons of ethnomedicine. *Understanding Applying Med Anthropol*. 2016:188.
- Major-Diaz C. *Migration, Transnationalism, Illness and Healing: Toward the Consolidation of the Self among the Congolese Diaspora in Boston and Lynn, MA. [dissertation]*. London, United Kingdom: University of East London; 2016.
- Winterbottom A, Horden P, Hsu E. The body in balance: humoral medicines in practice. *Social History Med*. 2016 hkw002.
- Mazars G. *A concise introduction to Indian medicine*. In: *Indian Medical Tradition, Vol 8*. Delhi, India: Mortil Banarsidass; 2006.
- Jolliff DB. Social culture and nutrition: cultural blocks and protein malnutrition in early childhood in rural West Bengal. *Pediatrics*. 1957;20:128–38.
- Leslie C. Modern India's ancient medicine. *Trans-Action*. 1969:46–55.
- Beck BEF. Colour and heat in south Indian ritual. *Man*. 1969;4:553–572.
- Croizier RC. *Traditional Medicine in Modern China: Science, Nationalism, and the Tensions of Cultural Change*. Cambridge, Mass: Harvard University Press; 1968, 17.
- Adair J. Patterns of health and disease among the Navajos. In: Lynch LR, eds. *The Cross-Cultural Approach to Health Behaviour*. Teaneck, NJ: Fairleigh Dickinson University Press; 1964.
- Nestler G. Traditional Chinese medicine. *Med Clin North Am*. 2002;86(1):63–73.
- Setka Stella. "Phantasmic Reincarnation: Igbo Cosmology in Octavia Butler's Kindred." *MELUS: Multi-Ethnic Literature of the United States*. 2016;41.1: 93–124.
- Osanyinbí QB, Falana K. An evaluation of the Akure Yorùbá traditional belief in reincarnation. *Open J Philosophy*. 2016;6:01–59.
- Chung, Vincent CH, et al. Use of traditional and complementary medicine as self-care strategies in community health centers: cross-sectional study in urban pearl river delta region of china. *Medicine*. 2016;95(23):e3761.
- Saracci R. The World Health Organisation needs to reconsider its definition of health. *BMJ*. 1997;314(7091):1409.
- Kleinman A. *Patients and healers in the context of culture*. Berkeley, Calif: University of California Press; 1980.
- Adair J, Deuschle K, McDermott W. Patterns of health and disease among the Navahos. *Ann Am Acad Political Social Sci*. 1957;311(1):80–94.
- Chrisman NJ, Kleinman A. Health beliefs and practices. In: Thernstrom S, et al., (Ed). *Harvard Encyclopaedia of American Ethnic Groups*. Cambridge, Mass: Harvard University Press; 1980.
- Kleinman A. *Patients and Healers in the Context of Culture. An Exploration of the Borderland Between Anthropology, Medicine and Psychiatry*. Berkeley, Calif: University of California Press; 1980.
- Kleinman A. Concepts and a model for the comparison of medical systems as cultural systems. *Soc Sci Med B Med Anthropol*. 1978;12:85–93.
- George M. *Interpreting illness, disease, medicine, and medical care*. In: *Institutionalizing Illness Narratives*. Singapore: Springer Singapore; 2017, 1–28.
- Eni G. *Conflict Between Different Beliefs Systems in Health care Delivery*. Vancouver, BC, Canada: AMSSA: Proceedings of the Multicultural Health Symposium; 1987, 17–8 pA7.
- Pellegrino ED. Medicine, history and the idea of man. *Ann Am Soc Med Social Sci*. 1963:346.
- Ackerknecht EH, Haushofer L. *A Short History of Medicine*. Baltimore, Md: JHU Press; 2016.
- Wood CS. *Human Sickness and Health*. Mountain View, Calif: Mayfield Publishing Co; 1979.
- Gillies E. Causal criteria in African classification of disease. In: Loudon JB, (Ed). *Social Anthropology and Medicine*. New York, NY: Academic Press; 1976: 358–95.
- Turner V. The Ndembu doctor in practice. In: Kiev A, (Ed). *Magic, Faith and Healing. Studies in Primitive Psychiatry Today*. New York, NY: Free Press of Glencoe; 1964.