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Ethnomedicine in healthcare systems of the world: a Semester at Sea pilot survey in 11 countries

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Background: An understanding and appreciation for the varied healthcare systems in use throughout the world are increasingly vital for medical personnel as patient populations are now composed of ethnically diverse people with wide-ranging belief systems.
Objective: While not a statistically valid survey, this pilot study gives a global overview of healthcare differences around the world.
Design: A pilot study of 459 individuals from 11 different countries around the world was administered by 33 students in the upper division course, People, Pathology, and World Medicine from Semester at Sea, Fall 2007, to ascertain trends in healthcare therapies. Open-ended surveys were conducted in English, through an interpreter, or in the native language.
Results: Western hospital use ranked highly for all countries, while ethnomedical therapies were utilized to a lesser degree. Among the findings, mainland China exhibited the greatest overall percentage of ethnomedical therapies, while the island of Hong Kong, the largest use of Western hospitals.
Conclusions: The figures and trends from the surveys suggest the importance of understanding diverse cultural healthcare beliefs when treating individuals of different ethnic backgrounds. The study also revealed the increasingly complex and multisystem-based medical treatments being used internationally.

Keywords: *ethnomedicine*; *global healthcare*; *western medicine*

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The United States (US) is home to an extremely diverse multi-ethnic society. In 2006, there were over 37.5 million foreign-born individuals living in the US, representing more than 12.5% of the total population. There is also a large population of second-generation Americans with a need and appreciation for holding on to their native cultural beliefs (1).

An understanding of the varied healthcare systems in use throughout the world is increasingly vital for medical personnel, as the patient population now composes not only an ethnically diverse people, but also a population with exceedingly wide-ranging healthcare belief systems (2). A cross-cultural understanding of healthcare beliefs is essential to providing these patients with a favorable clinical experience, and is indispensable in providing culturally competent treatment and appropriate care (2).

This pilot study looks at the research results of a group of university students who traveled around the world. These students were learning about healthcare systems, ethnomedicine, sanitation, and living conditions of various diverse cultures. In doing so the students learned the importance of understanding diverse cultural healthcare beliefs when treating individuals of different ethnic backgrounds.

Healthcare systems and ethnomedical beliefs

Western medicine focuses on scientific breakthroughs and cutting edge technologies. It views the body from a mechanistic approach for which medical malfunctions are fixed by altering or replacing the broken pieces (3). Yet, 'the body is not a machine'; and in fact we now know that the body is inclined to respond and heal in a way outside of current scientific understanding (3). The 'mind–body connection,' as a traditional element of ethnomedical systems fills this void (3).

Ethnomedical systems lack the division between mind and body. Many ethnomedical systems support a belief in a singular body force or 'bioenergy' as the source of human health, including the traditional systems of Chinese medicine and Ayurvedic medicine of India (3). These systems focus strongly on preventative measures and the

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use of natural elements such as herbs, food, and spices, as well as, exercise and massage components to heal (4).

Patients seeking care in Western medical healthcare facilities, but whose belief systems fall more closely into ethnomedical systems create opportunities for miscommunication, commonly misinterpreted as ethnic bias or 'culturalism,' (5). In some Western hospitals in the US, traditional therapies are being incorporated, creating a 'reverse technology transfer' in which ethnomedical ideals are being reincorporated into US medical systems (3).

As US patients seek out more ethnomedical therapies, the rest of the global community is generally striving for access to Western medical care (3). In the future 'no one system of medicine alone [will] provide [the] formula [to effectively] care for the entire human family,' (3). The incorporation of multiple healthcare systems in an effort to create complementary therapeutic care holds the key to implementing a truly valuable medical system.

Methods

Semester at Sea, founded in 1963, is a study abroad program offering students a '[g]lobal, comparative education' and is managed by the Institute for Shipboard Education (6). It is academically sponsored by The University of Virginia, offering courses in more than 20 disciplines each semester (6). During the Fall 2007 semester, visiting lecturer Dr. Nancy E. Muleady-Mecham, Department of Biological Sciences, Northern Arizona University, instructed the upper division course People, Pathology, and World Medicine. The 33 students in the course participated in the fieldwork. Open-ended surveys by interview were conducted of individuals in the countries visited during the circumnavigation voyage.

The pilot study sample included 459 individuals from 11 different countries around the world with a high concentration of sampling in India of 88 subjects, 85 in Egypt, and 58 in China. The individuals questioned were of extremely diverse demographics including economic background, education, living situations, and ranged in age from four years-of-age to 79 years-of-age (Tables 1 and 2).

All surveys were completed in English, with the exception of students who used Spanish when applicable in Spain. Individuals were selected for surveys based upon the ability to communicate in English or availability of an interpreter, and their willingness to participate in the study. A number of the participants worked in vocations that brought them into contact with tourists and students. Participants of the study were informed that surveys were confidential, other than the collection of demographic information.

The survey instrument

The survey was composed completely of open-ended questions in an effort to gain unguided cultural beliefs on personal healthcare. Participants were simply asked if they had ever been hurt or injured, and if so, what action for healthcare was taken. Subjects were also surveyed on their general feelings of healthcare quality, availability, and accessibility within their country.

Information gathered from interviews was then translated into quantitative data by using the personal narrative experience to classify treatment choices into one of eight major categories:

(1) Hospital care, which was then divided into private, public, or non-disclosure and was counted when the individual directly noted a visit to a hospital.
(2) All other Western medical treatments were classified as clinical experiences and included visits to local and/or private doctors, clinical visits, consultations by doctors in an impersonal setting, treatment by nurses, and where otherwise noted that patient was seen by a doctor but did not specifically mention 'hospital.'
(3) Herbal therapies which were said to include herbal medicine in pill form, herbal medicine in natural form, and use of spices and/or teas (7).
(4) Acupuncture, which also included acupressure (7).
(5) Pharmacy/self medicate in which the subject used a Western medication but did not inquire for guidance or a prescription of medication from a medical professional.
(6) Other alternative medicine for which any treatment or therapy not already accounted for by the previous categories. This can include Ayurveda, Homeopathy, and Unani.
(7) Never sick was counted when the individual claimed to have never suffered from an illness or injury or when he or she was said to use preventative measures.
(8) No treatment was denoted when the participant noted a specific ailment, but did not receive any treatment or use of any alternative therapy.

Some interviews were classified into more than one category when treatments were combined, or Western medical care was sought after self-treatment and ethnomedical therapies failed. The quantitative data was then correlated with country and cultural observations to determine trends in healthcare.

Results

In all of the countries surveyed, hospitals ranked as the number one service patients sought when ill or injured, with each of the countries rating it at greater than 31%. Cambodia had the lowest percentage of hospital use at 31% and Hong Kong the greatest at 75%. The other countries fell somewhere in-between, typically around 40% (Table 3).

Table 1. Age demographics of survey participants by country

Country	0–19 Years	20–29 Years	30–39 Years	40–49 Years	50+Years	Non-disclosure
Cambodia	0	6	7	2	1	0
	0%	37%	44%	12%	6%	0%
China	5	41	3	3	5	0
	9%	72%	5%	5%	9%	0%
Croatia	2	16	7	1	8	0
	6%	46%	21%	3%	24%	0%
Egypt	7	20	27	20	11	1
	8%	24%	32%	24%	12%	1%
Hong Kong	1	5	1	0	1	0
	13%	61%	13%	0%	13%	0%
India	5	21	24	18	20	0
	6%	24%	27%	20%	23%	0%
Japan	4	4	3	4	3	1
	21%	21%	16%	21%	16%	5%
Spain	4	11	10	2	6	0
	12%	33%	30%	6%	19%	0%
Thailand	4	10	14	3	1	1
	11%	31%	43%	9%	3%	3%
Turkey	1	15	14	7	9	1
	2%	32%	30%	15%	19%	2%
Vietnam	3	14	16	2	1	3
	8%	36%	41%	5%	2%	8%

Ethnomedical therapies were utilized less than hospitals with China showing the greatest overall percentage of ethnomedical therapies: 24% herbal therapy, 12% acupuncture, and 9% other alternative medicine practices, and ranked highest in the latter two than any other country.

Vietnam, India, Japan, Cambodia, and Turkey shared similar percentages to China of herbal therapy use and to a lesser degree, in acupuncture and other alternative therapies. They also showed a higher percentage use of clinic and pharmacy/self-medication, suggesting a balance in the use of healthcare systems.

Table 2. Gender demographics of survey participants by country

Country	Male	Female	Total	Male (%)	Female (%)
Cambodia	11	5	16	69	31
China	31	27	58	53	47
Croatia	18	16	34	53	47
Egypt	60	25	85	71	29
Hong Kong	5	3	8	62	38
India	53	35	88	60	40
Japan	7	11	18	39	61
Spain	14	20	34	41	59
Thailand	21	10	32	66	31
Turkey	34	13	47	72	28
Vietnam	24	15	39	62	38

Note: One transgender individual represented the remaining 3% of Thailand's population.

Hong Kong, while regionally and ancestrally related to China, differed dramatically with only one outlying use of alternative medical therapy, acupuncture. Nearly all individuals interviewed from Hong Kong used Western medical facilities when seeking treatment.

Croatia, Spain, and Thailand had high percentages reflecting use of Western medical facilities similar to that of Hong Kong, with large percentages in clinical and pharmacy/self-medication: 24%/24%, 18%/9%, and 16%/16%, respectively. Turkey, though mentioned previously for use of herbal therapies, rated highly in Western medical practices as many individuals there combined herbal therapies with Western medical treatments.

Egypt was noteworthy for the high percentage of individuals who claimed never to have been ill or injured, at 33%.

Discussion

China was the country with the greatest utilization of ethnomedical therapies. This affirmed the use of traditional Chinese medicine as an extremely prevalent practice and an engrained part of the Chinese culture. In association with the popularity of herbal therapies and

Table 3. Quantitative data from surveys of participants seeking specific treatment by percentage of total participant population in each country

Country	Hospital (%)	Clinic (%)	Herbal therapy (%)	Acupuncture (%)	Pharmacy/self medicate (%)	Other alternative (%)	Never sick (%)	No treatment (%)
Cambodia	31	19	25	0	12	6	19	0
China	36	9	24	12	7	9	10	0
Croatia	53	24	6	0	24	0	3	0
Egypt	39	12	9	–	9	5	33	1
Hong Kong	75	12	0	12	0	0	0	0
India	36	25	20	3	3	2	11	2
Japan	39	28	22	0	5.6	0	17	0
Spain	41	18	9	0	9	0	21	0
Thailand	34	16	6	3	16	6	22	0
Turkey	47	21	26	6	16	4	9	0
Vietnam	44	18	15	3	18	8	3	0

acupuncture as practiced among Chinese immigrants to the USA, we see that such medical belief systems are most likely 'product[s] of embedded, pervasive cultural values,'(7). General non-measurable trends from the interviews suggested that while the Chinese prefer using traditional medicine over Western medicine, due to the believed harsh side effects experienced with Western medicine, they still consider Western medical emergency treatment to be extremely important as a number of people noted that if he or she was severely ill or injured, he or she would seek treatment at a Western hospital.

Countries bearing similar cultural values and beliefs shared closely analogous results of valued healthcare systems, for instance, Vietnam and India in relation to China. While each country carries its own personal cultural formula of ethnomedical beliefs, they are all based on similar values and conceptual ideals of the body. In India, religion and family are included as important components of healing (4), as was noted by more than 10 people surveyed who commented on the importance of family in healing and a number of individuals who mentioned spiritual healers.

Japan had a high percentage of individuals who used herbal remedies, similar to China. Japan's higher use of clinical Western medical systems than mainland China may be a result of Japan's long history of occupancy by Westerners.

Cambodians also recorded using Western hospitals and clinics. But some persons interviewed generally did not seek Western medical care because of economic circumstances, relying instead on ethnomedical therapies. Six of 16 interviewees spoke of feeling that medical care was too expensive. Thus, the second criterion for responses to healthcare systems, for which the first was cultural belief systems, is economic circumstance. Traditional therapies have a propensity to be more popular in third world developing nations merely for economic affordability than Western medical care. Western medications are expensive and unrealistic for many of these people (3).

A third and final circumstance of responses to healthcare systems is seen in Turkey. Western medical healthcare is available to all, but in public and private venues. As widespread as Western medicine is in Turkey, herbal remedies continue to have a stronghold. Herbal medicines in Turkey, commonly in the form of tea, represent an actively used alternative to otherwise ineffective public healthcare and inaccessible private medical facilities. In a healthcare satisfaction survey in Turkey, the general population believed that public facilities were uncomfortable and had long waits to be seen, while private services were often too expensive for use by the general public (8).

Thailand suffers from similar problems to Turkey in relation to the dilemma of private and public healthcare. Thailand also suffers from a lack of geographically accessible Western medical facilities, which reinforces the current dissatisfaction of a Thai's experience in seeking treatment. This may account for the high percentages of individuals treated at clinics, by self-medication, or claiming to never having been ill or injured. Individuals may seek out more local options, including defining ill and injured to a different degree of severity.

All of Croatia, Spain, and Egypt have developed private Western healthcare systems, with a foundation of government-sponsored facilities. Croatia and Spain experience ethnomedical tendencies to a lesser degree than Egypt, which may be attributed to a number of factors including the long history of Egypt, ancestral knowledge from living on vast desert lands, and Egypt's Islamic population, which like neighboring nations,

regularly practice ethnomedical therapies more than Western European countries.

Egypt held a unique value of 33% of participants claiming to have never been ill or injured, another facet of how cultural beliefs, or in this particular case stigmas, can be associated with illness and healthcare. While many claimed to have never been ill, they were all able to name a friend who has been ill, as well as describe all of the various options available to one needing medical care in addition to their general feelings about the performance of healthcare within their country.

Finally, Hong Kong, which has ancestral ties to mainland China, was ruled by Britain for many years, and has been influenced by the British medical belief system. This is reflected by the 75% Western hospital usage by survey participants; the highest of any other country visited by the Semester at Sea students.

It is important to note that these figures are limited. The numbers do not represent statistics, but rather generalizations from a small sample subject to a number of biases. These included seeking English-speaking survey participants, even though many students used an interpreter. Many participants were selected due to convenience of interaction with a Semester at Sea student. A certain bias existed in interpreting interviews due to vast language barriers and culturally diverse definitions. As this was a pilot study, the information may be an oversimplification of a representative country sample and should not be taken to represent the nation as a whole; but rather, the figures should be interpreted as a preliminary survey of global views on healthcare systems and healthcare beliefs. Further studies should be conducted for a more accurate understanding of healthcare systems as they exist in the global community.

Regardless of the limitations of the figures, the values and trends from the surveys do suggest the importance of understanding diverse cultural healthcare beliefs when treating individuals of different ethnic backgrounds. This study showcases the increasingly complex and multi-system-based medical treatments being used internationally. As the US incorporates more ethnomedical therapies into the Western medical care of global community members, we must seek a better understanding of diverse healthcare systems and the cultures that support such systems' healthcare beliefs.

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