



Health and Health Care of Chinese American Older Adults

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DESCRIPTION

This ethnic specific module reviews the history of Chinese immigration to the US, health risks and specific disease incidences, and cultural influences that may impact on health care delivery to Chinese American older adults.

Information in the content section is based on evidence from research, and citations to the published studies are included.

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MODULE CHARACTERISTICS



Time to Complete: 1 hr, 20 mins



Intended Audience: Doctors, Nurses, Social Workers, Psychologists, Chaplains, Pharmacists, OT, PT, MT, MFT and all other clinicians caring for older adults.



Peer-Reviewed: Yes

LEARNING OBJECTIVES

After completion of this module, learners will be able to:



1. Describe current population trends of Chinese-American populations.
2. Describe how acculturation to Western Society has impacted elder Chinese immigrants' view of Western medicine.
3. Identify specific diseases that are prevalent among Chinese elderly.
4. Identify the major influences in traditional Chinese culture and how they may impact Chinese elders' view of life and Western medicine.
5. Describe barriers and strategies that may enhance end-of-life care for Chinese American populations.

INTRODUCTION & OVERVIEW

Current Population

According to the 2005–2007 American Community Survey of the U.S. Census, there were more than 3 million Chinese living in the U.S., an increase of more than 500,000 since the 2000 census (<http://www.infoplease.com/us/statistics/us-population-by-race.html>).

Population Compared to other Asian Americans

Chinese Americans are the largest subgroup of Asian Americans, comprising almost 25% of all Asian Americans. Of the estimated 3 million Chinese

Americans, about 907,700 (30%) were US born, while about 2.1 million (70%) were foreign born; about 1.24 million were naturalized US citizens, and about 876,000 were not US citizens.

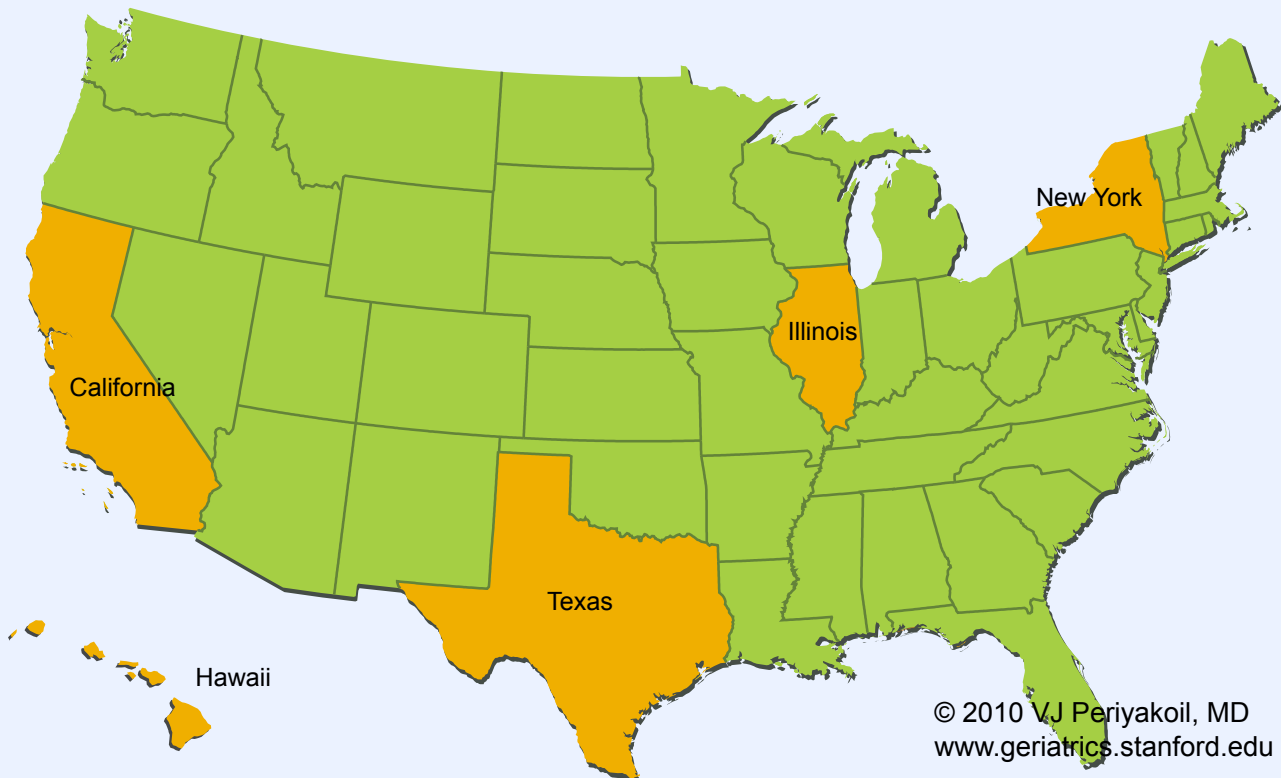
Language, Education and Socioeconomic Status

Chinese Americans are a heterogeneous population with regard to language, education, and socioeconomic status (Chang, 2003; Lum, 1995; American Community Survey 2005–2007).

Fig. 1

States with Large Chinese American Populations

66% of Chinese Americans Live in the 5 U.S. States listed below



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(INTRODUCTION & OVERVIEW CONT'D)

According to the 2005–2007 survey, about 17% of the Chinese American population spoke English only, while 83% spoke a language other than English. About 47% reported they spoke English less than “very well.”

Geographic Location and Poverty Rates

Approximately 66% of Chinese-Americans live in 5 states: California, New York, Hawaii, Illinois and Texas. Poverty rates for “all families” was about 9.5%, but jumped to between 18-26% in female households with no husbands present.

Seventeen percent of Chinese American elders (over 65 years) live in poverty and 47% live alone. (American Community Survey 2005-2007; McBride, Morioka-Douglas, & Yeo, 1996).

Religion

There are four major traditional religions/philosophies in China: Confucianism, Buddhism, Taoism and ancestor worship. In addition to these religions, many Chinese Americans practice Christianity. The 2006 China International Religious Freedom Report reflects that in China (including Tibet, Hong Kong, and Macau), there are five main religions: Buddhism, Taoism, Islam, Catholicism, and Protestantism. While these are the primary religions, the 2005 religious affairs

regulations did not identify “official” religions. In Mainland China, religion has not been freely practiced for many years due to government policies, though Confucian philosophy has remained widely taught (China: International Religious Freedom Report 2006).

Language

According to the 2000 U.S. Census, the language most spoken at home after English and Spanish is Chinese (2 million speakers). (<http://www.census.gov/prod/2003pubs/c2kbr-29.pdf>) The Chinese language has many dialects. Mandarin is the official Chinese language, but many Chinese Americans speak Cantonese, Taiwanese, Shanghainese, Fukinese and other dialects. However, individuals who speak any of the Chinese dialects can read the Chinese written language which is not necessarily tied to the spoken languages. They all share a common written language so Chinese characters are understandable by all Chinese people who are literate. However, there are some important differences between written Chinese in Mainland China and in Taiwan. Since the 1950s, Mainland China has used simplified characters, a way of writing characters with less detail. Taiwan uses only traditional characters, which are more complex.

PATTERNS OF HEALTH RISK

There is little specific data regarding the health status of Chinese-Americans. Prior to 1985, studies suggested a lower risk for death and disease in Asians and Pacific Islanders as a whole (Huff & Kline, 1999). However, newer studies see a trend towards poorer health status for this group in general, especially among those who live in poverty. According to the National Center for Health Statistics (2006), for the Asian Pacific Islander population, cancer was the top killer, followed by heart disease and stroke. This differs from the White population for whom heart disease is the leading cause of death. The myth of the “Model Minority” (that all Asians are affluent and healthy) is misleading. Significant segments of the Asian population are living in poverty, lack insurance, and do not access health care. According to 2007 health statistics, 15% of Asian persons under 65 years do not have health insurance coverage, and 6.5% of persons of all ages report that they are in fair or poor health. (http://www.cdc.gov/nchs/fastats/asian_health.htm) Also, Chinese American households tend to be larger due to the common practice of multiple generations and extended family living together.

Role of Western Society on Health Status

The degree to which immigrants have adopted the culture and behaviors of Western society has impacted their health status in many cases. Comparisons of illness patterns show an increased rate of cancer of the breast, colon, and prostate in Chinese Americans when compared to Chinese living in mainland China (PRC), Taiwan, and Hong Kong and Singapore.

In terms of mental health, because of cultural views about psychological well-being and illness, mental health is an extremely complex issue among the Chinese. The traditional focus on the body and mind as a single unit can lead to more frequent somatic complaints, because patients may focus on physical discomforts rather than emotional or psychological concerns (K.-M. Lin & Cheung, 1999).

Somatization, or manifesting physical symptoms related to psychiatric or emotional disorders, is common among Chinese Americans (Daus, Borme, Trieu, & Chen, 2006). Also, acculturation and gender may be associated with perceptions and attitudes about domestic violence. (Shibusawa 2007).

Specific Diseases

Depression

A reasonable strategy to efficiently assess depression in Chinese older adults is to first administer the Single Question or Geriatric Depression Scale-4 (GDS-4). If depression is likely, the Chinese GDS-15 could be used to increase the probability of identifying depression in Chinese older adults (Wu & Kelley, 2007). Worldwide, Chinese (along with Indian) women have higher rates of suicide than women of other nationalities. (Brockington, 2001) But comprehensive population-based data on prevalence or incidence of depression in the Chinese American population are lacking.

Alcoholism

Lower rates of alcohol use and alcoholism among Asians and Pacific Islanders appear to be related to a genetic variation prevalent in these populations (Makimoto, 1998). Specifically, Asians are more likely than Whites to have a specific variant of a gene (i.e., an allele) called the aldehyde dehydrogenase-2 (ALDH2) Lys 487. This allele causes the body to break down alcohol in such a way that a person with the allele experiences symptoms such as facial flushing, nausea, headache, dizziness, and rapid heartbeat—collectively known as the “flushing response”—after consuming alcohol. Because of the presence of this allele, Asian populations tend to consume less alcohol and have lower levels of alcoholism than other ethnic groups (Makimoto, 1998). This allele therefore may provide Asians some protection against heavy drinking and alcoholism (Yin et al., 1988; Makimoto 1998). The presence of the ALDH2 allele varies among Asian groups in the United States. In a study of college students, researchers found that

(PATTERNS OF HEALTH RISK CONT'D)

48 percent of students of Chinese ancestry had this allele, compared with 35 percent of students of Korean background (Luczak et al., 2001). The Chinese students also had a lower rate of binge drinking (7 percent) compared with the Korean students (30 percent). The specific prevalence of alcohol use and alcohol related disorders among adult Chinese American populations is not well documented.

Dementia

Dementia and memory loss are a complex process and it is important to understand the transition from normal aging to dementia. Chinese American older adults are at risk for any of the several types of dementia. In the course of caregiving for dementia patients, Chinese American families may encounter multiple barriers (Zhan, 2004), including stigmatization of Alzheimer's Disease (AD) in the Chinese community (Zhan, 2004, Liu 2008), a lack of knowledge about AD, a lack of culturally and linguistically appropriate AD services, negative interactions with health-care providers, and difficulty with English.

According to a cross-national study (Llibre Rodriguez et. al, 2008), the prevalence of dementia was 5.6% (95% CI 4.2-7.0) in rural China. Dementia diagnosis was made according to the culturally and educationally sensitive 10/66 dementia diagnostic algorithm, which had been prevalidated in 25 Latin American, Asian, and African centres, and by computerised application of the dementia criterion from the Diagnostic and Statistical Manual of Mental Disorders (DSM IV).

Fei et al (2009) studied the epidemiology of "cognitive impairment no dementia" (CIND) by studying a cluster random sampling of 6192 people aged over 65 years in Taiyuan, a metropolitan city located in northern China. Results showed that the overall prevalence of CIND was 9.70%. In a multiple logistic regression analysis, age, sex, marital status, educational level, and occupation were significantly associated with increased risk for CIND ($P < 0.01$).

Infectious Disease

Hepatitis B. The prevalence of chronic hepatitis B virus (HBV) infection varies by geographic region. Most of North America is a low-prevalence ($< 2\%$) area. Certain high-prevalence pockets exist, especially areas with a high proportion of Asian immigrants where rates of chronic HBV are as high as 5% to 15% (Carey 2009). Asian Americans and Pacific Islanders (AAPIs) account for over half of the 1.3 million chronic hepatitis B cases and for over half of the deaths resulting from chronic hepatitis B infection in the United States. (Juon, 2008) There is a higher prevalence of Hepatitis B among Chinese-Americans, and hence, a higher prevalence of Hepatitis B-associated liver cancer.

In most low-prevalence areas, HBV infection is acquired mainly during adolescence and mid-adulthood, whereas perinatal transmission is the main route in high-prevalence ($\geq 8\%$) areas. Up to 40% of patients with chronic HBV infection develop liver complications. Age at acquisition affects the likelihood of chronicity and the development of liver complications. The risk of each is greatest with perinatal transmission; the disease is usually self-limiting when exposure to HBV occurs during adolescence or young adulthood. Viral load predicts progression to cirrhosis and hepatocellular carcinoma. Also, Yuen et al. (2005) followed 3,233 Chinese patients with chronic HBV infection for approximately 4 years, and found that the risk of developing liver complications from chronic HBV infection increased as ALT concentration increased.

Several studies to measure the knowledge, attitudes, and behaviors related to Hepatitis B (HBV) screening and vaccination in the Chinese American population have shown that knowledge level of HBV risk factors and screening and vaccination rates are low (Ma 2008; Thompson, 2002; Nguyen, 2007). Therefore, intervention programs to improve HBV testing rates in Chinese Americans should include strategies to improve knowledge about the risk of HBV and encourage effective communication with health care providers about HBV testing and vaccination (Coronado, 2007).

(PATTERNS OF HEALTH RISK CONT'D)

Tuberculosis (TB). There were 646 deaths from TB in 2005, a 1.7% decline from 657 deaths in 2004. As a group, Asian and Pacific Islanders have the highest prevalence of tuberculosis. The rate of TB in Asians is 25.6 cases per 100,000 persons, which is over 10 times that of the White population in the US and more than twice the rate other populations. It is also important to note that since 1998, the percentage of U.S.-born patients with MDR (Multi-Drug Resistant) TB has remained < 0.7%. However, of the total number of reported primary MDR TB cases, the proportion occurring in foreign-born persons increased from 25% (103 of 407) in 1993 to 80% (73 of 91) in 2006. (<http://www.cdc.gov/tb/publications/factsheets/statistics/TBTrends.htm>)

Cancer

Cancer rates vary with age, acculturation and location. Some of these differences may represent the influence of environment, such as diet and health habits, and therefore may be modifiable (National Cancer Institute Registry: <http://seer.cancer.gov/>). Concomitantly, genetics may play a role as well. There is wide inter-individual variability in the pharmacokinetics, pharmacodynamics and tolerance of anticancer drugs. Recent evidence suggests that there is even greater variability between individuals of different ethnicity. Allelic variants of genes encoding drug metabolising enzymes are expressed with different incidences in different ethnic groups, particularly between Asians and Caucasians, and some of these variants result in altered enzyme function. There is also preliminary evidence to suggest that ethnic differences in the expression of allelic variants may produce altered pharmacokinetics of some anticancer drugs, including paclitaxel and irinotecan. Emerging evidence indicates that toxicity from certain anticancer treatments is much greater in Asian patients than in Caucasians with breast and lung cancers. Understanding the causes of ethnic differences in cytotoxic metabolism may promote improved and more individualised prescribing, as well as culturally competent prescribing (Phan, 2009).

Liver Cancer. Asian Americans have the highest rate of liver cancer as well as mortality from liver cancer among all U.S. ethnic and racial populations. The incidence rate for liver and intrahepatic bile duct cancer among Asian/Pacific Islanders (from 2002 to 2006) was 21.4 per 100,000 men and 8.3 per 100,000 women. Mortality rates among Asian/Pacific Islanders were 15.0 per 100,000 men and 6.6 per 100,000 women. Both incidence and mortality rates were higher compared with White or Black populations in the U.S. (<http://seer.cancer.gov/statfacts/html/livibd.html>)

This is the most significant cancer health disparity affecting Asian Americans in the U.S. On the positive side, Asians/Pacific Islanders have experienced a significant decrease in mortality rates over time compared to other groups (Altekruse, 2009; Wong 2009). Specific data for liver cancer in Chinese-Americans were hard to obtain.

Nasopharyngeal Cancer (NPC). Chinese-Americans have the highest rates in the US. Rates vary among Chinese living in mainland China, the US, Hong Kong and Singapore.

Despite having higher incidence rates of NPC and the same risks of NPC-related mortality compared with other groups, Chinese NPC patients in the US have better overall survival (Sun et al, 2007).

Breast Cancer. The incidence rate for breast cancer among Asian/Pacific Islander women (from 2002 to 2006) was 89.5 per 100,000 women. Mortality rates among Asian/Pacific Islander women were 12.5 per 100,000 women. Both incidence and mortality rates were lower compared with White or Black populations in the US (<http://seer.cancer.gov/statfacts/html/breast.html>).

The risk of breast cancer is higher in Chinese-American immigrants than in Chinese living in Asia. Breast cancer is the most commonly diagnosed cancer in Chinese females living in the US. Factors such as the use of estrogens, nulliparity, fewer births, older age

(PATTERNS OF HEALTH RISK CONT'D)

at first birth and obesity may be responsible for rate differences in various countries. A retrospective study of 499 ethnically diverse women with breast cancer found that in the Asian group, 96% of breast cancer patients who were either nulliparous or had late onset of first childbirth were found to have estrogen-positive disease, whereas only 52% of those without these risk factors were found to be estrogen-positive (Menes et al, 2007). These differences were not found among the White, Hispanic or African American women. Chinese women are less likely to receive mammograms than White women. Some barriers may include lack of knowledge, lack of insurance coverage, as well as lack of access (Lee-Lin et al, 2007).

Prostate Cancer. The incidence rate for prostate cancer among Asian/Pacific Islander men (from 2002 to 2006) was 91.1 per 100,000. Mortality rates among Asian/Pacific Islander men were 10.6 per 100,000. Both incidence and mortality rates were lower compared with White or Black populations in the US (<http://seer.cancer.gov/statfacts/html/prost.html>).

The rate of prostate cancer increases sharply with age, and the rate of prostate cancer among Chinese-American men is three to five times higher than in Chinese living in Asia. Robbins et al. (2007) conducted a study of prognostic factors and survival in prostate cancer in non-Hispanic Whites and 6 Asian subgroups (Chinese, Filipino, Japanese, Korean, South Asian, and Vietnamese), using data from all men in California diagnosed with incident prostate cancer during 1995-2004 and followed through 2004 (n = 116,916). On multivariate analyses adjusting for all prognostic factors, all subgroups except South Asian and Vietnamese men had significantly better survival than Whites; the latter 2 groups had statistically equal survival.

This study showed that Chinese American men had better survival rates compared with White men, but the reasons were unclear. Another study among Medicare recipients investigated differences in disease-free survival among White, Black, Hispanic, and Asian patients in a large, population-based database. It found that the

disease-free survival rates of White, Hispanic, and Asian patients were not statistically different (Cohen et al, 2006).

Colon Cancer. The incidence rate for colon and rectal cancer among Asian/Pacific Islanders (from 2002 to 2006) was 46.9 per 100,000 men and 34.6 per 100,000 women. (<http://seer.cancer.gov/statfacts/html/colorect.html>) Mortality rates among Asian/Pacific Islanders were 13.8 per 100,000 men and 10.0 per 100,000 women. Both incidence and mortality rates were lower than those of White or Black populations in the US.

Among Chinese living in various countries, the variable rates suggest diet related and other environmental risk factors for colon cancer. The rates are higher in US and Hong Kong Chinese than in mainland China. There are no specific and time-correlated studies of cancer incidence across various Chinese subgroups. But Cao et al (2009) reported data on colorectal cancer patients during 2000-2002 that were collected from Guangzhou's population-based cancer registry. They found the crude incidence of colon cancer to be 13.4 per 100,000 (13.5 per 100,000 in males, 13.3 per 100,000 in females), and the crude incidence of rectal cancer to be 9.6 per 100,000 (10.8 per 100,000 in males, 8.2 per 100,000 in females). In terms of mortality of colon cancer, the rate was 7.1 per 100,000 (7.3 per 100,000 in males, 6.9 per 100,000 in females). The mortality rate for rectal cancer was 5.0 per 100,000 (5.5 per 100,000 in males, 4.5 per 100,000 in females).

Chiu et al. (2005) conducted a study in Taiwan, to determine the frequency of colorectal neoplasia in an asymptomatic Taiwanese population and the topographic distribution of lesions relative to age and gender. Of 1741 (94.3%) patients (1041 men, 700 women; mean 52.5 years) enrolled, 1708 (98.1%) underwent total colonoscopy. The authors found that 263 (15.4%) had colorectal neoplasia and 51 (3.0%) had advanced lesions.

(PATTERNS OF HEALTH RISK CONT'D)

In terms of risk factors, Murphy et al (2009) examined the association between family history of cancer and subsequent colorectal cancer risk in a cohort of traditionally low-risk Chinese women. They followed 73,358 women in the Shanghai Women's Health Study for cancer incidence. After an average of 7 years of follow-up, 391 women were diagnosed with colorectal cancer. They adjusted the data for age, smoking, family income, education, body mass index, physical activity, and history of diabetes. The authors found a significant association between colorectal cancer risk and history of a parent being diagnosed with colorectal cancer (hazard ratio: 3.34; 95% confidence interval: 1.58, 7.06). No association was observed for colorectal cancer diagnosed among siblings. Also, colorectal cancer risk was not influenced by a positive family history of cancer generally or any of the other cancers investigated (lung, breast, prostate, gastric, esophageal, endometrial, ovarian, urinary tract, central nervous system, and small bowel). These cohort results suggest that consistent with findings from Western populations, having a family history of colorectal cancer may influence colorectal cancer risk to a similar extent in a low-risk population.

Lung Cancer. The incidence rate for lung and bronchus cancer among Asian/Pacific Islanders (from 2002 to 2006) was 53.4 per 100,000 men and 28.1 per 100,000 women. (<http://seer.cancer.gov/statfacts/html/lungb.html>) Mortality rates among Asian/Pacific Islanders were 36.9 per 100,000 men and 18.2 per 100,000 women. Both incidence and mortality rates were much higher in males. Both rates were lower in Asians compared with White or Black populations in the U.S.

Lung cancer rates vary widely. The highest rates are in Chinese living in Hong Kong (Wang XR, 2009) and Singapore, followed by mainland China, and then the US. Some of the difference in rates probably reflects the rate of smoking in the various areas. However, in many of these areas, women have a low prevalence of smoking. Wang XR, (2009) conducted a population-based case-control study of 212 Hong Kong women diagnosed with

primary lung cancer. All cases and controls were lifetime non-smokers. Results support the etiological link of lung cancer with preexisting lung disease, in particular asthma and family cancer history (any cancer).

YL Lai et al. (2007) describe the experience of dyspnea and helpful interventions in Chinese patients with advanced lung cancer admitted to the palliative care unit in one region in Hong Kong. Eleven participants agreed to be interviewed in this qualitative study, with ages ranging from 51 to 80 years. They had been diagnosed with lung cancer for 1 to 12 months, and all required oxygen therapy for dyspnea. Patients in this study found no Chinese words to adequately define and describe dyspnea and relied on sensations they experienced during the dyspnea episode. The impact of dyspnea was multidimensional, and patients used various strategies to manage dyspnea, including avoiding triggers and utilizing traditional Chinese medicine. Overall, health care professionals were perceived to play a very inadequate role in assisting patients with dyspnea, and participants suggested that they should take a more active role in educating and supporting patients with dyspnea.

Smoking

The rates of smoking in the US as a whole have been declining. The average for US adults is 30%. The rate of smoking in Chinese-American males is estimated at 28%. In some states, the rate of smoking among Chinese-American males is greater than in Whites. Chinese-American women currently have low rates of smoking, but are being targeted by tobacco advertising. Fu et al (2003) studied the relationship between linguistic aspects of acculturation and cigarette smoking among Chinese Americans. They conducted a survey of 541 Chinese American adults attending four pediatric, medical, or dental practices located in Philadelphia's Chinatown from November 2000 to February 2001. English and Chinese language proficiency subscales were utilized to analyze the association between language proficiency and current smoking.

(PATTERNS OF HEALTH RISK CONT'D)

Whereas 25% of Chinese American men reported current smoking, only 3% of Chinese American women reported current smoking. Chinese American men with lower English proficiency reported higher rates of current smoking compared with Chinese American men with higher English proficiency (33% vs. 18%, $p < .01$). Less English-proficient Chinese American male smokers were less likely to have received advice from a physician to quit smoking (50% vs. 85%, $p = .01$).

In a multivariate analysis, increased English proficiency was associated with decreased odds of current smoking ($OR = 0.38$, 95% $CI = 0.16-0.89$) among Chinese American men after controlling for confounding variables. Thus, Chinese American men with limited English proficiency should especially be targeted for tobacco control interventions.

Lam et al (2007) conducted a study of Chinese elderly in Hong Kong to examine the relationship of smoking with all-cause and major cause-specific mortality in elderly Chinese men and women aged $> \text{or} = 65$ years. They found that even in old age, smoking continued to be a major cause of death, and quitting was beneficial.

Cardiovascular Disease

A study by Ye et al (2009) reported that all Asian American ethnic groups in their study (including Chinese, Asian Indian, Filipino, and other Asian populations) were significantly less likely than Whites to report smoking, obesity, and binge drinking.

Hypertension. The International Collaborative Study of Cardiovascular Disease in ASIA (InterASIA), conducted in 2000–2001, used a multistage cluster sampling method to select a nationally representative sample in China (Gu, 2002). This study found that 27.2% of the Chinese adult population age 35 to 74 years, representing 129 824 000 persons, had hypertension. The prevalence of hypertension increased with age. Among hypertensive patients, only 44.7% were aware of their high blood pressure, 28.2% were taking antihypertensive medication, and 8.1% achieved blood pressure control ($< 140/90$ mm Hg).

Chen (2008) examined the association between blood pressure (BP) and mortality among patients with a history of cardiovascular disease (CVD) in China. They conducted a prospective cohort study among 4195 CVD patients aged 40 years and older. They found a strong, independent, and positive association between elevated BP (i.e. systolic BP higher than 120mmHg) and mortality among patients with a history of CVD.

Data on hypertension in Chinese immigrants in the US has been difficult to obtain.

(PATTERNS OF HEALTH RISK CONT'D)

Coronary Artery Disease (CAD). Wang et al (2007) looked at non-ST-segment elevation (NSTEMI) acute coronary syndromes (ACSs) in Asian patients using the CRUSADE trial data; they found that despite similar treatment, Asian patients with NSTEMI ACS have significantly higher bleeding risk even after adjustment for risk factors and body mass index. Similarly, Shen et al. (2007) reported racial/ethnic differences in the risk of intracranial hemorrhage (ICH) among patients with atrial fibrillation. Compared with White patients, the hazard ratio for ICH was 4.06 for Asians, 2.06 for Hispanics, and 2.04 for Blacks. These studies bring up the need to further explore the potential for ethnic variability in and risk with antithrombotic and anticoagulant susceptibility.

Diabetes Mellitus

There is a trend towards increasing rates of diabetes mellitus in Chinese Americans, but they are on par with the general US population (Lum, 1995; Yee & Weaver, 1994). Specific prevalent rates of diabetes in Chinese groups in the US were hard to obtain. However, some data could be glimpsed from Oza-Frank's study (2009) to compare diabetes prevalence by WHO and US BMI classifications among Asian Americans.

Authors analyzed data on Asian American adults (n=7,414) from the NHIS (National Health Interview Survey) 1997-2005. Diabetes prevalence was estimated across weight and ethnic group strata. This study found that Asian Indian ethnicity on its own, but not other Asian ethnicities, was strongly associated with diabetes.

End-Stage Renal Disease (ESRD)

ESRD occurs when the kidneys are no longer able to function at a level necessary to sustain life. Asians in the United States are almost twice as likely to develop ESRD as non-Hispanic Whites (Karter et al., 2002). In addition, annual increases in ESRD rates are greater among APIs than in Whites. New cases are increasing at 11% per year among APIs, compared with 6% per year among non-Hispanic Whites (US Department of Health and Human Services, 2000).

CULTURALLY-APPROPRIATE GERIATRIC CARE: FUND OF KNOWLEDGE

To provide culturally competent care for Chinese American elders, it is important for geriatric providers to have background knowledge of:

1. The traditional health beliefs and behaviors in the Chinese culture, and
2. The historical experiences that may have influenced the current cohort of Chinese American elders.

Cultural Beliefs and Practices

Role of Confucianism

Confucianism, the teachings of Confucius circa 500 BC, has played an important role in forming Chinese character, behavior and way of living. (Eliot 2001; Guo 1995) **Its primary purpose is to achieve harmony, the most important social value.**

Confucianism strongly emphasizes:

- mercy
- social order
- fulfillment of responsibilities.

This is achieved by everyone having well defined roles and acting towards others in a proper way. “Ren” is the central ethical principle, and is equivalent to the concepts love, mercy, and humanity. It is best explicated by Confucius in the following statement: “Do not do to others what you do not want done to yourself.” This ethical principle is further strengthened by the Buddhist tradition that merit is accumulated by doing merciful acts, which leads to a better next life through reincarnation.

There are five cardinal relations (“wu lun”): sovereign-subject, father-son, elder-younger brother, husband-wife, and friend-friend. The family is the center and comes before the individual. The father is the undisputed head of the family. With regard to filial piety (“xiao”), sons, especially the oldest son, have specific obligations toward the family and are expected

to respect and care for parents (McLaughlin & Braun, 1998). In pre-modern China, the act of suicide was not necessarily deviant behavior if it was associated with duty or loyalty to the family.

“Li”, the “proper way” or “propriety”, includes a set of rules for interaction with others and the role system. Control of emotions, restraint, obedience to authority, conforming and “face” are highly valued and important.

(Additional references for the section: Lassiter, 1995; Tseng & Wu, 1985.)

Other Influences

Yin/Yang. General laws of opposing forces. Yin (female, negative energy, cold) and Yang (male, positive energy, hot). Illness results from imbalance of these forces. Foods are classified as “hot” and “cold”, and a proper balance is required to maintain health. Illnesses and treatments are also classified as hot and cold.

Five Elements. Relationship of the elements of wood, fire, earth, metal, water (McBride et al., 1996).

Psychosomatic Integration. In Traditional Chinese Medicine (TCM), organs are associated with various emotions and symbolic functions: lung (worry), gallbladder/liver (anger), heart (happy), kidney (fear), spleen (desire) (Lee, 1997).

Buddhism. Some Chinese elders may subscribe to the Buddhist concept of karma, the idea that individuals have a moral responsibility, and that each person’s deeds may have cause and effect. Simply, meritorious deeds and thoughts result in a good rebirth and evil deeds and thoughts lead to an unfavorable rebirth.

Taoism (“the Way”). Emphasis is on selflessness, cleanliness, emotional calm, and conformity. Emphasizes the mystical aspects of human nature (Lassiter, 1995; Ryan, 1995).

(FUND OF KNOWLEDGE CONT'D)**Conflicts with Western Concept of Autonomy**

Traditional Chinese values place the family and society over the individual. A traditional deference to authority may produce miscommunication. For example, patients may nod their heads to indicate understanding and agreement, but they may be simply deferring to authority. It is important to be sure they understand what is being said and are not just being polite.

(Additional References for the section: Chen, 1994; Dai & Dimond, 1998; Huff & Kline, 1999; Loo, 1998; Lum, 1995; McLaughlin & Braun, 1998; Sue et al., 1979; Tanjasiri et al.; www.nccc.org/pdf/Registries/monographs; Yee [Ed], 1999; Yee & Weaver, 1994;)

Cohort Analysis**1850's: Chinese, First Asian Immigrants to US**

The very first Chinese immigrants were wealthy merchants, skilled artisans and hotel and restaurant owners. However, starting in the mid 1800's, large groups of unskilled "coolie" laborers immigrated to California, primarily to the "Gold Rush" areas and San Francisco. Others worked on the Central Pacific Railroad. In Hawaii, Chinese immigrated as Contract Laborers in the 1850's to provide workers for the booming sugar industry (<http://library.thinkquest.org/20619/Chinese.html>).

1870's and 80's: Growing Resentment toward the Chinese—"Yellow Peril"

The Chinese Exclusion Act of 1882 prohibited family members of Chinese workers from coming to the US. Due to this and other acts, the already imbalanced gender ratio of 19:1 (male : female) widened. Thus the Chinese immigrants in the early 1900's were essentially "bachelor societies" of predominantly old men. These Chinese clustered in groups forming ethnic enclaves of "Chinatowns", where people still live, work and socialize (<http://library.thinkquest.org/20619/Chinese.html>).

Post WWII Immigration

With the Repeal of Chinese Exclusion Act in 1943, wives and unmarried children were allowed to enter the US. The War Bride Act of 1945 further increased the number of Chinese women. The Immigration and Nationality Act amendments of 1965 (Hart-Celler Act, INS Act of 1965) abolished the national-origin quotas that had been in place in the United States since the Immigration Act of 1924. After the 1970's, new immigrants from Taiwan and Hong Kong arrived. They tended to be better educated professionals and their families. A large proportion of Chinese immigrants from Southeast Asia were refugees (McBride et al., 1996).

For additional historical information see Table 1 in Appendix: Chinese Americans: Significant Dates and Periods in Immigration and History

(FUND OF KNOWLEDGE CONT'D)**Four Chinese American Groups in the Acculturation Continuum**

A Chinese American individual's degree of acculturation may be influenced by a host of variables, such as the age of immigration to the US, the length of time spent in America, educational level and experience, socioeconomic status, and the desire to assimilate into the dominant American culture. As a broad framework, four Chinese American groups can be categorized according to their level of acculturation (Hsiung & Estwing-Ferrans, 2007):

1. Elderly Chinese American Immigrants (most traditional and least acculturated)

Primarily from China and Taiwan, these immigrants mostly have come to the US to be with their children, often to help care for their grandchildren. This group may be strongly connected with traditional Chinese roots. They speak primarily Mandarin or other Chinese dialects, know little or no English, socialize with other elderly Chinese American immigrants, and retain cultural/religious beliefs of Taoism and /or Buddhism. They also tend to hold on to traditional values of gender expectation, age hierarchy, filial piety, and collectivity.

2. Immigrants of Working Class (less acculturated)

This group consists of more recent immigrants of working class. Most people in this group arrived after the Immigration Act of 1965 and primarily came to the US seeking relatively low socioeconomic-level jobs.

This group commonly has gathered in Chinese sections of large urban areas, such as San Francisco and New York City. In general, the underlying cultural values embraced by this group are still very traditional, but they might speak more proficient English and are somewhat more malleable to the dominant American society.

3. Bi-Acculturated Professionals

This group consists of highly educated people, such as scientists, scholars, and professionals. This group commonly has immigrated from relatively affluent areas of Taiwan or Hong Kong after 1970. Because of their language advantage, they generally live and work among the general American population rather than in Chinese enclaves. Considered bicultural, they are Americanized in some aspects but traditional in others. For example, they may be moderately acculturated in their work lives but remain strongly attached to traditional culture in their personal lives.

4. American-Born Chinese Americans

This group is the most acculturated and least traditional. Although their foreign-born parents and grandparents may influence their values and beliefs, this group's value system tends to be predominantly American and their attachment to traditional Chinese culture is generally less than that of the other three groups.

CULTURALLY APPROPRIATE GERIATRIC CARE: ASSESSMENT

Heterogeneity vs. Homogeneity

Chinese are not all alike, but have a lot in common. (Chen, 1994)

Many American-born Chinese, although not as traditional, may still retain values of respect for authority and elders, passivity, family values, and fatalism (Lassiter, 1995). There is a lack of culturally sensitive assessment instruments, so caution is advised in interpreting questionnaires and other instruments that have not been validated cross-culturally. (Lum, 1995)

Degree of Acculturation and Strength of Ties with Traditional Beliefs

Respect/Protection of Elders/Filial Piety

This value may lead to not informing family members of illness to “protect” them. There may be reluctance to place them in long-term care and reluctance to discuss Advance Directives (McLaughlin & Braun, 1998).

Role of Superstition

It may be considered bad luck to talk about illness or death, as verbalizing may cause the illness or death to happen (McLaughlin & Braun, 1998). This might be a traditional Chinese belief, but not that of Buddhism. There may be considerable variation among such attitudes depending on the geographical area, degree of acculturation, and strength of ties with traditional beliefs. For example, in Taiwan, the Hospice-Palliative Care Act, enacted in 2000, was designed to respect the end of life medical wishes of patients with incurable illnesses, safeguard the rights of these patients, and provide clinical guidelines for healthcare workers responsible to provide end of life care. Self-determination was deemed a core element of human dignity and decision making (Fang 2009).

Psychosomatic Integration: Somatic Complaints as Indicators of Mental Illness

Somatization in traditional Chinese culture is an acceptable way to express emotional distress and obtain attention; a patient may be perceived as a “hypochondriac” (Jung, 1998). More recently, however, Mak & Zane (2004) have explored the phenomenon of somatization in relation to the experiences of acculturation, stress, support, and distress. They found that Chinese Americans’ level of somatic symptoms, impairment related to somatization, and percentage who attained the Somatic Symptom Index criterion were comparable to those found in other populations. Regression analyses showed that anxiety, depression, gender, age, education, stressors, and support were significantly related to somatization, ($p < 0.05$). Somatizers tended to perceive themselves as having poor health and utilized both Western and indigenous Chinese medicine.

Formalistic Conformity/Deference to Authority

Patients may not verbalize anxiety or doubts regarding their medical care in front of medical personnel, but then they may not follow through with treatments. This can be misinterpreted as patient noncompliance or insincerity. This deference to authority can also be misconstrued as lack of interest in participating in medical decision-making. It is a good idea to encourage patients to briefly summarize the plan of care, and to ask questions so that their concerns can be addressed.

Decision-Makers

Decision-makers are traditionally expected to be husband or oldest son. However, this may change depending on the degree of acculturation as well as the patient’s life experiences. Thus, it is a good idea to ask patients whether they would want to make their own decisions about health care, or defer to other family representatives. It is also important to clarify that physicians cannot act as surrogate decision-makers for patients.

(ASSESSMENT CONT'D)**“Saving Face”**

This is the concept of “keeping one’s good reputation.” (<http://www.thefreedictionary.com/Saving+Face>) This may make it harder for patients to admit to having problems, especially mental health problems. Patients who want to save face with the physician may not want to question or disagree with the physician to his/her face, thus resulting in patients not coming back for follow up, “doctor shopping”, or not taking medications as prescribed.

Concepts of Yin/Yang and “chi” or “qi” (vital energy)

Traditional Chinese Medicine (TCM) is the most common form of healthcare among first generation immigrants, which is a majority of the Chinese-American population (Wang, C., 1996).

TCM is mainly guided by a holistic concept of health that emphasizes achieving balance and harmony throughout bodily systems. Many elderly Chinese American people use TCM and allopathic medicine in a complementary fashion.

CULTURALLY-APPROPRIATE GERIATRIC CARE: DELIVERY OF CARE

Treatment

Role of the Health Care Provider

The basic concepts of treating patients with respect, compassion, and honesty are still what are most important to patients, regardless of cultural/ethnic background. A better understanding of a person's cultural beliefs can improve patient compliance and the relationship between patient and provider.

There may be a conflict with the Western concept of the patient-physician relationship of partnership vs. the doctor as authority. Patients may hesitate to make direct eye contact, or may hesitate to ask questions or voice opinions so as not to inconvenience others or appear disrespectful. Physicians are expected to make decisions and give instructions.

The physician must be viewed as trustworthy, caring and willing to help. To put the elder patient at ease, it is important to take a little time to “talk story” before beginning the clinical interview, to address patients with respect (Mr. or Mrs.), and to try to pronounce names correctly. It is appropriate to ask the patient how to pronounce his/her name. (Elliot, Di Minno, Lam & Mei, 1996)

Some elders may feel uncomfortable with physical contact during conversations. Health care providers must be aware of their own stereotypes of the Chinese and degree of acculturation of their patients.

Integration/Awareness of Traditional Chinese Medical Treatments/Beliefs

Many Chinese still believe in traditional Chinese medical treatments. Therefore, a physician's disregard or lack of respect for these beliefs may lead to distrust. Open discussion and flexibility may go a long way in treating the elder Chinese-American patient (Lassiter, 1995).

Examples of traditional treatments

- **Acupuncture:** meridians are pathways of energy, or “chi”, which lead to various organs. Acupuncture is the common professional practice of traditional Chinese medicine (TCM) in the US since many states require a license to practice.
- **Cupping:** using heated bamboo cups to reduce stress, congestion, colds. This is a practice that may be interpreted as abusive since it can leave bruises on the skin.
- **Herbology:** use of plant or animal parts in the treatment of illness and deficiencies and to stimulate the body's “chi”. This is the most important and common method of TCM. Many Chinese-Americans use herbs to treat the side effects of modern medicine, especially cancer patients receiving chemotherapy.
- **TCM:** one of its key concepts is to treat according to deficiencies or excesses of “chi.” But some patients may extrapolate this concept to other treatments which may not be medically effective. A common example is that a liver cancer patient has ascites due to low production of albumin (a deficiency in albumin), and demands that albumin be replaced, even though there is no medical evidence of its effectiveness.
- **Yin/Yang concept:** elders may avoid the cold, and may avoid certain foods considered to be “cold” foods.
- **Meditation/Exercise:** often used to help alleviate stress.

(DELIVERY OF CARE CONT'D)

Psychotherapy

There should be awareness that Western methods of psychotherapy may not be received well. Confrontation may potentially make patients uncomfortable (Ryan, 1985). However, since Chinese individuals may much more highly value education, Dai et al (1999) studied a cognitive-behavioral package (originated by Ricardo Munoz, Ph.D.) adapted for Chinese American subjects. The material was videotaped in eight sessions, approximately 25 minutes in length, to be shown to community subjects who were at least 40 years and over. In addition, a videotape of muscular relaxation techniques was made. A manual written in Chinese about the content of each class was given to each subject when he/she attended.

The experimental group showed significant improvement in scores in the Hamilton Depression Scale, including the Somatic Subscale in the Hamilton Anxiety Scale. There was no significant improvement in the control group on any of the measures. Thus the study suggests the efficacy of psychoeducational classes in reducing symptoms of depression in non-patient community elderly. More focused research in this area is needed.

Advance Directives/End of Life Issues

Many Chinese may be reluctant to discuss these issues due to the superstitious belief that if you talk about something bad, it could occur). Resistance to organ donation may result from the concept of keeping the body whole for the afterlife, and showing respect by not harming or disfiguring the deceased. Attitudes can change depending on degree of acculturation. Some elders do not want to be a burden to their children. Medical professionals need to use care and be aware of their patients' beliefs when approaching these issues with Chinese elders or their families. It is also important to ask about whether there is an accepted family decision-maker (Yeo, 1995).

One study showed that Chinese elders feel that their children may advocate for aggressive treatment out of a sense of filial duty. If children do not advocate for aggressive treatment, they can be negatively viewed for not looking out for their parents' best interests (Bowman, K.W., Singer, P.A., 2001). According to a 2003 Chinese-American End-of-Life (EOL) needs assessment by California Coalition for Compassionate Care, most participants lacked information on EOL issues, e.g., hospice, palliative care, pain management, the dying process and Advance Health Care Directives. Many participants said they would have made different decisions if they had had more complete information at the time of the loved one's death. Many thought their choices were essentially to insist on aggressive care or do nothing.

Ngo-Metzger et al (2008) conducted a retrospective study of the last year of life among Asian-American and Pacific Islander (AAPI) and White Medicare beneficiaries registered in the Surveillance, Epidemiology, and End Results (SEER) Program. The authors studied White (n=175,467) and AAPI (n=8,614) patients aged 65 and older who were dying of lung, colorectal, breast, prostate, gastric, or liver cancer. The authors examined hospice use and length of stay in hospice among these populations. They found that all AAPI subgroups in the study had lower rates of hospice use (Chinese (adjusted hazard ratio (HR)=0.62), Japanese (adjusted HR=0.67), Filipino (adjusted HR=0.61), Hawaiian/Pacific Islanders (adjusted HR=0.78), and other Asians (adjusted HR=0.70) than White patients, adjusting for patient demographic and clinical characteristics.

In a study of resuscitation preferences and code status among subgroups of Asian nursing home residents in Seattle (Vaughn 2000), Chinese subjects were more likely to be full code (OR 3.3 (95% CI, 2.6-4.2)), compared to Japanese and other Asian groups.

(DELIVERY OF CARE CONT'D)

An important study by Low et al. (2000) explored the end-of-life choices and preferences of a group of elderly Chinese subjects attending a day care centre in Singapore.

The authors interviewed 43 subjects. The median age was 71 years. There were more women than men (58% vs. 42%). The predominant religion was Buddhism/Taoism. 83.7% of the subjects preferred to be told of the diagnosis and 76.7% the prognosis of a terminal illness, respectively. The person most preferred to reveal the diagnosis was the attending doctor (60.5%). About 84% of the subjects had never heard of the Advanced Medical Directive Act, while 37% agreed that making an advanced directive would be necessary. Twenty-three subjects (53.5%) would choose the doctor, while 15 (34.9%) would choose a family member as a surrogate decision-maker. Twenty-two subjects (51.2%) thought that euthanasia should be allowed, while 15 (34.9%) disagreed. With regard to supportive measures at the end of life, 67.4% wanted cardiopulmonary resuscitation, 62.8% wanted artificial ventilation, 55.8% wanted nasogastric feeding, 65.1% wanted intravenous hydration and 41.9% wanted renal dialysis.

In summary, there is lack of access to clear information regarding end-of-life care options and decision making, there is a need for closer and open communication between older persons and their caregivers with regard to end-of-life care, and health care professionals including physicians have an important role in this respect.

Medications

There is a high rate of non-compliance with Western antihypertensive medications in non English speaking Chinese with hypertension (Huff & Kline, 1999). Many less acculturated Chinese-Americans may believe that Western medications are too strong and may not take prescribed doses. Elder Chinese-Americans may be at risk for drug interactions due to metabolic factors which alter the metabolism of drugs, and the concurrent use of herbs and other Chinese medications.

ACCESS AND UTILIZATION

Health Care Utilization

The degree of utilization is dependent upon acceptance by patient and family, and barriers such as mistrust, money, saving face, and family responsibilities.

Additional barriers to the US health system include: lack of language and culturally competent services, geographic barriers and economic barriers.

For example, English ability, conservatism with regards to more traditional Eastern cultural values and lack of knowledge may be partially responsible for lower rates of mammograms in Chinese-American women (Wang JH 2009; Liang 2009). In general, the fact that Asian and Pacific Islander Americans are less likely to see a physician may impact on the success of prevention programs, such as smoking cessation and breast cancer screening (Chen 1994; Fu 2003; Wang JH 2009).

Use of Long Term Care

There may be reluctance to place parents in long term care facilities out of respect and filial piety. Some studies found that daughters bear the burden of care (Holroyd 2001; Lai DW 2007). Often the decisions regarding placement occur later, when the situation is extremely stressful. (McLaughlin & Braun, 1998) In 1990, about 1.4% of Chinese Americans 65+ lived in nursing homes, compared to the overall rate of 5% for all Americans 65+ (McBride et al., 1996)

LEARNING RESOURCES

Instructional Strategies

In addition to lecture and reading assignments, the following cases can be used for discussion or written assignments.

Case Study 1

A 65 year old Chinese woman who immigrated to the US in 1995 to live with her eldest son and his American wife is brought in for a one week history of malaise, nausea and vomiting, and sudden jaundice. She is admitted to the hospital where diagnostic studies reveal an obstructive mass in the liver. Biopsy reveals hepatocellular carcinoma. Serologies show chronic active hepatitis B status.

As the attending physician, you ask the son to help translate and break the news to his mother that she has cancer. He is very concerned about his mother's diagnosis and prognosis, but asks you not to tell his mother that she has cancer. You feel that it is important that the patient know her diagnosis, but he is firm that he does not wish his mother to know this.

Despite his wife's recommendation that his mother be told, he refuses. You try to discuss end of life issues such as hospice care and "do-not-resuscitate" (DNR) orders, but when you bring up these subjects, he tries to discuss other issues such as when she can go home.

Discussion Topics: Cultural Issues that may be involved in this case—

1. Protection of elderly and filial piety
2. Superstition: discussing an illness or death/dying is bad luck. By talking about something bad, it may come true.
3. Increased incidence of liver cancer related to Hepatitis B in Chinese immigrants.
4. Access to interpreter services.
5. Access to clear end of life care options.

Case Study 2

Mr. W. is a 75 year old Chinese-American male who presents with vague and multiple physical complaints he reports he has had for several weeks. Prior to this he had been in good health and would come in only for periodic physical exams. His son tells you he has been complaining of "heart pain", indigestion, and weakness. He had been seeing the herbalist, but has continued to complain to his son.

The patient does not speak much English and his son interprets for him. During the interview you find out that Mrs. W., his wife of 50 years, died last year. His son is busy and sees him about once a month and will be moving to a job in another state. Your exam, laboratory and diagnostic tests are normal. On a return visit, you bring up the possibility that Mr. W. may be depressed. The son and the patient get very upset and vehemently deny any depression. The patient states that he is sick, not crazy.

Discussion Topics: Factors contributing to the patient's and his son's reaction—

1. Somatization
2. Saving Face
3. Filial Piety
4. Culturally acceptable words or language to describe depression or other psychiatric conditions.

(LEARNING RESOURCES CONT'D)

Student Evaluation: Objective Test*(for answer key, see page 24)*

1. The majority of Chinese in the US currently live in the following 3 states—
California, New York and Hawaii.

☐ True☐ False

2. List 2 belief systems that have had major influences on Chinese character and behavior:

1. _____

2. _____

3. Which is less prevalent in US Chinese as compared with US Whites?

☐ a. Liver Cancer☐ b. Tuberculosis☐ c. Alcoholism☐ d. Nasopharyngeal cancer

4. The majority of Chinese immigrants in the mid 1800's were primarily skilled laborers who settled in California and Hawaii.

☐ True☐ False

5. Acculturation into American/Western Society has led to a decrease in the incidence of prostate/breast cancer, hypertension and cardiovascular disease among Chinese immigrants.

☐ True☐ False

(LEARNING RESOURCES CONT'D)

6. In traditional Chinese society, which of the following are true.

- ☐ a. Individualism is encouraged.
- ☐ b. Respect for and protection of elders is valued.
- ☐ c. Obedience to authority is expected.
- ☐ d. Saving “face” only relates to a person not bringing on embarrassment or shame to his/her self.

7. Many Chinese-Americans, although they may have adopted Western culture and ways of life still retain traditional Chinese values to some extent?

- ☐ True
- ☐ False

8. List 3 issues that could act as obstacles when discussing illness or death with Chinese patients.

1. _____
2. _____
3. _____

9. In traditional Chinese society, somatization was an acceptable method of expressing emotional turmoil.

- ☐ True
- ☐ False

**Answer Key**

1. True
2. Confucianism, Yin/Yang, Buddhism, Taosim
3. C
4. False
5. False
6. B & C
7. True
8. A common superstition that discussing bad things may make them come true protection of elders from bad news; consideration of possible-decision making hierarchy that may be present in Chinese families: father, eldest son; role of daughters as caregivers; language barriers; mistrust

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LINKS

U.S. Census

<http://www.census.gov/>

Immigration: The Journey to America– The Chinese

<http://library.thinkquest.org/20619/Chinese.html>

Surgeon General's Report About Mental Health

<http://www.mentalhealth.org/cre/>

Cancer Prevention Institute of California

<http://www.ncc.org/pdf/Registries/monographs>

Chinese American Coalition for Compassionate Care

<http://www.caccc-usa.org>


China Institute

<http://www.chinainstitute.org/index.cfm>

APPENDIX: SIGNIFICANT DATES AND PERIODS

Table 1	Chinese Americans: Significant Dates and Periods in Immigration and History (cont'd)		
Year	Periods and Events	*U.S. Pop (in 1000's)	Male to Female Ratio
1850–1860	Sojourner male immigration from Southern China to Gold Mountain		
1870's	Brutality and violence; discriminatory legislation	60	
1879	California Constitution adopted with anti-Chinese provisions		
1880		100	
1882	Chinese Exclusion Act banning immigration of Chinese laborers		
1882–1920	Declining immigration; decline of agriculture, mining, and railroad occupations; rise of urban service occupations; immigration of “paper sons” and “treaty merchants” through “the Shed”		
1890		101	27:1
1900		90	
1900–1930	Rise of family associations and “tongs” (secret societies)		
1910		72	
1920		62	7:1
1924	Immigration restrictions eased slightly		
1930's	Pearl Buck novels portray Chinese peasants as heroes resisting Japanese invasion; “mutilated families”	75	

(APPENDIX CONT'D)

 Table 1	Chinese Americans: Significant Dates and Periods in Immigration and History (cont'd)		
Year	Periods and Events	*U.S. Pop (in 1000's)	Male to Female Ratio
1940–1946	16,000 Chinese Americans served in Armed Forces	78	
1943	Repeal of all 15 Chinese Exclusion Acts; quota set at 105 per year		
1946	Law passed allowing “alien” wives to immigrate		
1947–1952	Over 9000 wives immigrated; increased educational attainment; continued discrimination; high birthrates		
1950's	Cold War, two Chinas; fear of Communist threat from Chinese Americans; half of Chinese Americans are American born; increased acculturation	107	
1953	Refugee status available for 2000 if approved by Taiwan government		
1960's	Continued discrimination in unionized employment	237	1.1:1
1965	New Immigration Act passed, persons with kin in U.S. favored		
1970's	Two Chinese American communities: one suburban, well-educated; the other with little education and low income; immigration of Chinese from Vietnam	436	
1980's	Image of “model minority”; heavy immigration from mainland China, Hong Kong and Taiwan including older adults	812	
1990		1,079	
2000		2,400	
2005		3,100	

(Partial Source: Yeo et al., 1998)