

Use of Chinese herbal products in Oakland and San Francisco Chinatowns

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Traditional Chinese medicine (TCM) is an integral part of the Chinese culture and is classified as an alternative medicine in Western-based medicine. The increased use of alternative medicine in the United States may significantly affect U.S. health care providers.¹ To appreciate the role of TCM in health care, it is important to understand the philosophy of health and wellness as it relates to Chinese culture and beliefs. One of TCM's core philosophies is the concept of yin and yang, which is based on the idea of balancing two opposing forces that are in constant flux. Chinese culture applies the theory of yin and yang to the functioning of the body as a whole. Several factors, including food, emotions, people, and the senses, influence this balance. When balance is achieved, a person is considered healthy.² Since food is often used to restore this balance, the boundary between what is considered food and what is medicine is not well defined in Chinese culture.³ Food can be considered medicine, and medicine may be considered food.⁴ Several texts about Chinese medicine and food culture highlight this mutually inclusive nature of food and medicine.³⁻⁶

We surveyed San Francisco Bay-area Chinatown residents about their use of Chinese herbal products, primary care provider preference, and frequency of doctor visits. The objec-

tives of this survey were to (1) characterize the population using the products, (2) identify prevalence and type of and rationale for herbal product use, (3) assess herbal product-drug interactions, and (4) describe participants' preference of primary care provider and frequency of visits.

Methods. A 15-question survey was created to address the use of TCM between two San Francisco Bay-area Chinatowns. All questions were written in both English and Chinese script. The committee on human research (institutional review board) at the University of California San Francisco approved the study. Demographic questions addressed the participants' sex, age, country of birth, and years living in the United States. Additional questions addressed health status (the presence of any chronic illnesses); the use and indication for any Western-based prescription or nonprescription medications; and the use, frequency of use, indication for, perceived useful-

ness, adverse effects, and preparation method of any herbal products. Chronic illness categories listed on the survey tool included diabetes, high blood pressure, high cholesterol, arthritis, heart problems, and other. Indications for use of Western medications and herbs were left open ended so that the individual could write in an answer. The survey contained questions about the use of "bou ping/tong," a common Chinese term referring to foods that replenish elements perceived to balance the yin and yang. Primary health care provider status (i.e., Western, Chinese traditional doctor [CTD], both, or other), frequency of visits in the past year, and provider awareness of herbal use were assessed. Survey participants were also asked if they had given herbal products to children.

Three Chinese-speaking investigators (two spoke Cantonese and one spoke Mandarin) administered the survey to individuals attending the Oakland Chinatown Lion's Club health fair on July 1, 2001, and patrons of Wellman's Pharmacy in San Francisco's Chinatown on August 21, 2001. The Oakland location was surveyed once on a weekend day and the San Francisco location once on a weekday, until at least 100 surveys had been collected at each location. A booth was set up at each location.

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Completion of the survey was voluntary, and participants could decline to participate at any time. As an incentive to complete the survey, participants received a gift consisting of a pot scrubber and a packet of soup-based powder (bouillon). Participants who did not report using herbal products were excluded from the study analysis. An herbal product was defined as a plant, root, or raw botanical formulated as a pill, tea, food, or topical preparation. Those who indicated the use of an herb, Western-based medication, or both were asked to state why they were taking the product.

Results. Demographics. A total of 205 people consented to participate in the study. The total attendance for the day at both the health fair and the pharmacy could not be determined. Thirty-seven participants were not using herbal products and were excluded from the study analysis. Responses from the remaining 168 people were included in the final data analysis. A majority of respondents were women of Asian ethnicity. Ages among all participants ranged from 20 to 85 years, with an average age of 56. Most participants originated from China and had lived in the United States for at least six years (Table 1).

Medication use and chronic illness. Sixty-one percent (103 of 168) of respondents reported having at least one chronic illness, resulting in a total of 158 reported illnesses. The most common chronic illnesses were arthritis (34%), hypertension (20%), hypercholesterolemia (17%), "heart problems" (9%), and diabetes (3%). The remaining illnesses were categorized as "other" and included gastrointestinal problems, anxiety, anemia, and benign prostatic hyperplasia.

About 66% of the 168 participants reported using one or more Western medications, for a total of 157 reported medications. To better characterize the indications for use, the drugs were grouped as follows: cold/

Table 1.

Participant Demographics (n = 168)

Characteristic	No. (%) Respondents
Sex	
Male	31 (18.5)
Female	137 (81.5)
Age (yr)	
20–39	22 (13.1)
40–59	72 (42.9)
60–79	68 (40.5)
80–89	6 (3.6)
Ethnicity	
Chinese/Asian	164 (97.6)
Other ^a	4 (2.4)
Country of origin	
China	126 (75.0)
Hong Kong	24 (14.3)
Vietnam	6 (3.6)
Other ^b	12 (7.1)
Years in United States	
0–1	5 (3.0)
2–5	23 (13.7)
6–10	43 (25.6)
>10	93 (55.4)
Other ^c	4 (2.4)

^aIncluded African American and Caucasian.

^bIncluded Taiwan, Mexico, Macau, and Burma or respondent did not answer the question.

^cIncluded individuals who did not answer the question or were not U.S. residents.

allergy, gastrointestinal, cardiovascular, health maintenance (as stated by the participants), pain, cholesterol, hormone replacement, diabetes, anti-infective, or miscellaneous. The most common indications were pain (30.6% of 157 medications), cardiovascular disease (23.5%), cold/allergy (17.8%), and hypercholesterolemia (10.8%). Among the 103 individuals who reported having a chronic illness, 83% were taking prescription or nonprescription medications.

Herbal product use. The most commonly used herbal products included ginseng, qing bu liang, lycium fruit, dioscorea, and dong quai (Table 2). Respondents used an average of 2.3 herbal products, with 94 (56%) of those surveyed reporting ginseng use. The use of American ginseng was reported most frequently (nearly 79%), followed by Asian ginseng (16%), Siberian ginseng (1%), and unspecified species of ginseng (4%). Among the 378 reported herbal products, 32 (8%) were of a soup, tea, or mix of unspecified herbs. Individuals were queried about their rationale for TCM use. Only 61 indi-

cations were reported, despite there being 378 total products. We used the same grouping system for indications that we used for Western medications. The most frequent indications were cold/allergy (41%), pain (16%), health maintenance (11%), gastrointestinal (7%), cardiovascular (7%), anti-infective (2%), cholesterol maintenance (2%), and other (15%). Sixty-eight percent of respondents (114 of 168) prepared products as a food or soup only. Other responses about preparation methods were tea only (13%); tea and a topical formulation (<1%); tea, and food or soup (12%); tablet, pill, or capsule (3%); and no response (4%).

Herbal products were most commonly used on a weekly (25%) or monthly (23%) basis. Approximately 18% reported once-yearly use, and 14% reported daily use. Four respondents (2%) mentioned using herbal products occasionally but not consistently; 17% of respondents left this question blank, and two participants wrote "never," even though they reported using herbal products. A majority of those using herbal products

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Table 2.

Frequency of Use of Herbal Products

Herbal Product	No. (%) Uses (n = 378)	Traditional Uses
Ginseng	94 (24.9)	Improve well-being, stress, stamina, and immune function. ⁷
Qing bu liang	54 (14.3)	Maintain health and restore yin/yang balance. ⁷
Lycium fruit	43 (11.4)	Nourish and tonify the liver and kidneys. Reduce cough by enriching the yin and moistening the lungs. ⁸
Dioscorea	33 (8.7)	Treat conditions of the lungs and kidneys, such as cough, wheezing, and polydipsia, and spleen and stomach deficiencies, such as diarrhea, fatigue, and loss of appetite. ⁸
Dong quai	31 (8.2)	Regulate menses, amenorrhea, dysmenorrhea, and menstrual cramps. ^{7,8} Relieve pain and treat anemia, hypertension, rheumatism, ulcers, and dermatological conditions. ⁸
Buk kei	16 (4.2)	Prevent the common cold. ⁹
Dong sum	15 (4.0)	Treat circulation and menstrual problems. ⁷
Say mei	9 (2.4)	Literature does not explain traditional uses.
Dates	6 (1.6)	Treat lack of appetite, diarrhea, anemia, and fatigue. ⁷
Fox nut	5 (1.3)	Arrest diarrhea and leukorrhagia. ¹⁰
Herbal mix ^a	32 (8.5)	Varies
Other ^b	40 (10.6)	Varies

^aHerbal ingredients unspecified.

^bReported with a frequency of <0.8%: bird's nest, chrysanthemum tea, chune bui, dun chao chun, echinacea, five-flower tea, fong dong, ginkgo, golden root, gum yun fa, lily bulb, longan, loquat leaf, lotus, pearl barley, to fuk ling, xia ku cao, xia sang ju, and 11 herbs that were not discernible because of dialect issues.

perceived them as being somewhat (48%) to very helpful (31%). A smaller percentage (9%) reported that they were unsure about the products' helpfulness, while 1% did not find them helpful and 11% did not answer the question. A majority of users (88%) reported no adverse events, 4% reported diarrhea and taste disturbances (e.g., bland taste in the mouth), and 8% did not answer the question. There was no clear association between these adverse events and a particular herbal product, except in one person, who reported experiencing "re qi" (a Chinese term for too much heat) after taking dong quai. Of the respondents who were taking Western medications (66%), approximately 43% of them reported concurrent use of Western medications and herbal products.

Recommendations for herbal product use commonly came from

family members (85 [44%] of 195 usable responses), a CTD (66 responses [34%]), and friends (35 responses [18%]). The remainder came from literature (6 responses [3%]) and a physician (3 responses [2%]). A total of 203 responses were received for this question, indicating that many participants got advice from more than one source, but those indicating self-referral (7 responses) or that were not applicable (1) were excluded.

Health care utilization and disclosure. The reported use of health care providers is shown in Table 3. In individuals who visited only one type of doctor, Western doctors were seen more frequently than a CTD. Persons with a chronic illness also reported visiting a Western doctor more frequently than those without a chronic illness. A subset of 52 individuals visited both a Western doctor and a CTD. When asked which provider they preferred, 44% preferred

the Western doctor to the CTD, 31% did not have a preference, and one person did not respond.

The number of provider visits in a year to a Western doctor or CTD appears in Table 4. Individuals visiting a doctor only once or not at all during the past year preferentially visited a CTD, whereas individuals who made more frequent doctor visits preferentially saw a Western doctor. Although only 31% of individuals indicated having both a Western doctor and a CTD, 43% indicated seeing both types of doctors in the past 12 months; 8% did not visit any provider during the past year.

Nearly a third of participants did not report herbal product use to either a Western physician or a CTD, and approximately 12% did not answer the question. Of those 98 who reported herbal product use to a doctor, 10% informed only a Western doctor, 53% informed only a CTD, and 37% informed both.

Herbal product use in children. Half of the survey participants reported using herbal products to treat their children. Of these respondents, 62 (73%) provided some information about the specific herbal products used. Only 13 (21%) provided an indication for use, the most frequent being cold relief (61%), followed by a "cooling" effect of the herb (31%) and antiinfective use (8%). Some people reported using multiple herbal products to treat their children. Of the 75 herbal products participants identified, the most common were lycium fruit (8%), qing bu liang (7%), and ginseng (5%). The majority of herbal products were formulated as soup (84%); the remaining products were identified as teas (9%) or Chinese medicine bought from a pharmacy (7%).

Discussion. Demographics. Because the surveys were conducted in two San Francisco Bay-area Chinatowns, a majority of participants were of Chinese descent. Chinese immigrants live and shop in China-

Table 3.
Health Care Provider Preferences

Health Care Provider	No. (%) Respondents with Chronic Illness (n = 103)	No. (%) Respondents without Chronic Illness (n = 65)	No. (%) All Respondents (n = 168)
Western doctor	58 (56.3)	26 (40.0)	84 (50.0)
CTD ^a	10 (9.7)	14 (21.5)	24 (14.3)
Both Western doctor and CTD	30 (29.1)	22 (33.8)	52 (31.0)
None	2 (1.9)	2 (3.1)	4 (2.4)
Did not respond	3 (2.9)	1 (1.5)	4 (2.4)

^aCTD = Chinese traditional doctor.

Table 4.
Frequency of Visits to Health Care Providers

No. Visits to Provider in Past Year	No. (%) Respondents (n = 168)
Western doctor	
0–1	55 (32.7)
2–5	69 (41.1)
6–10	22 (13.1)
>10	17 (10.1)
No response ^a	5 (3.0)
Chinese traditional doctor	
0–1	83 (49.4)
2–5	51 (30.4)
6–10	14 (8.3)
>10	9 (5.4)
No response ^a	11 (6.5)

^aParticipants did not provide a response.

towns because there are fewer language barriers and shops carry foods and other products that they recognize. We offered kitchen-based products as incentives, which could have influenced our study demographics. We compared the demographics of our study participants with those from the 2000 U.S. Census for the geographic locations in San Francisco and Oakland pertaining to our survey sites. Our results were more similar to those of the San Francisco census for Zip Code 94108, which indicated that 58% of the population was Asian, 51% of whom were women with a median age of 42 years.¹¹ The Oakland Chinatown census for Zip Code 94607 found that the population was 27% Asian, 51% of whom were women with a median age of 34 years.

Medication use and chronic illness. To identify the possibility of concurrent use of Western medications (prescription and nonprescription)

with Chinese herbal products and the potential for herbal product–drug and herbal product–disease interactions, both medication use and chronic illness were identified. Sixty-one percent of participants using herbal products reported having a chronic illness, and 66% of those using herbal products also reported using Western medications. Nearly 83% of individuals with chronic illnesses were taking prescription or nonprescription medications. The four most common indications for Western medicine correlated well with the four most common chronic illnesses. The frequency of herbal product use among those with chronic illnesses was not surprising, as people with chronic illnesses are more likely to seek alternative remedies for conditions that may respond poorly to Western medications.¹

Herbal product use. The five herbal products most frequently reported were ginseng, qing bu liang, lycium

fruit, dioscorea, and dong quai. Indications for herbal product use were similar to the list of commonly reported chronic illnesses but also included two categories not previously reported, cold/allergies and health maintenance, indicating a preventive role of herbal products in Chinese culture. The three indications most commonly reported by participants (cold/allergy, pain, and health maintenance) correlate with the indications of ginseng as an adaptogen to support the immune system, dong quai as an analgesic and for menstrual pain,¹² and qing bu liang for health maintenance.

American ginseng (*Panax quinquefolius*) was the most frequently used herbal product, followed by Asian (*Panax*) ginseng. American ginseng is often less expensive than Asian ginseng and more commercialized with respect to the number of prepackaged products available, such as candy formulations and teas. This may contribute to American ginseng's popularity. Typical uses for American and *Panax* ginseng include use for improving well-being, stress resistance, physical stamina, and immune function. In TCM, both products are also used to prevent the effects of aging; treat blood and bleeding disorders, gastrointestinal complaints, diuresis, insomnia, hangovers, and fever; and act as a stimulant.⁷ Well-designed clinical trials supporting ginseng's many claims are still lacking.

Qing bu liang is a mixture of herbs cooked in soup. Although the contents can vary depending on the method of preparation, the mixture generally consists of seven standard herbs: dioscorea, lily bulb, dried polygonatum, fox nut, pearl barley, dried lotus seed, and dried longan. Individually, the ingredients have a wide array of indications. For example, lily bulb is used for mild cardiac insufficiency, arrhythmias, urinary tract infections, and kidney stones; pearl barley is used for bronchitis, inflam-

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matory bowel conditions, lowering cholesterol and blood glucose levels, cancer prevention, and a source of B vitamins; and dried lotus seed is used for digestive disorders, including diarrhea.⁷ Among those surveyed, however, the most common use of qing bu liang soup was for health maintenance and restoring yin/yang balance.

Although dioscorea is primarily used to treat conditions of the lungs, kidneys, spleen, and stomach, it is also used in women's health as a natural alternative for hormone replacement therapy, premenstrual symptoms, and osteoporosis.⁷ In American culture, dioscorea is derived from wild yam. Dioscorea is used to synthesize progesterone, which is used for hormone replacement therapy. Wild yam, however, is not converted endogenously into estrogen, progesterone, or dehydroepiandrosterone, despite the claims of the dietary supplement manufacturers. Wild yam can only be converted to active hormone through a series of chemical modifications, which must occur in a laboratory.¹³

Dong quai is used to regulate menses and treat amenorrhea, dysmenorrhea, and menstrual cramps.^{7,8} It is interesting, though not surprising, to note that three of the five most popular herbal products (ginseng, dioscorea, and dong quai) are commonly used in women, as the majority of our study participants were women.

Because of the cultural perception that herbal products are food, the most popular methods of herbal product preparation were food, soup, and tea. These preparation methods are likely to lead to variations in the amount of herbal product used and the results achieved from batch to batch. Although certain combinations of herbal products, such as qing bu liang, can be bought in prepackaged forms, the ingredients can also be purchased separately. It is not uncommon for different households to add or omit ingredients when mak-

ing their own version of qing bu liang, thereby contributing to variations in herbal product content.

The reported frequency of herbal product use was high, with 39% of participants reporting daily or weekly consumption. The actual percentage may be even higher. As most herbal products were prepared as a food, soup, or tea, people may not have been aware of how often they consumed them. Some participants, who could not quantify how frequently they used an herbal product, expressed difficulty in choosing an answer because of their inconsistent patterns of use.

A majority of respondents (79%) found herbal products to be very to somewhat helpful. Interestingly, the most common indication for herbal products as reported by the participants was for colds and allergies, self-limiting conditions that resolve on their own, regardless of treatment. This may have contributed to a high acceptance rate of herbal products and positive attitude about their effectiveness. In addition, the participants may have felt empowered by taking charge of their own illness and selecting their own treatment plan.

Only 4% of participants reported adverse reactions from herbal products. Since only 14% of participants reported using herbal products on a daily basis, the potential for interactions between herbal products and drugs is expectedly low. Even if adverse events did occur, the signs and symptoms might not have been attributed to the herbal products because of the perception that herbal products are food. Although none of the survey participants reported any major adverse events from the five most popular herbal products, some adverse events have been recorded in the literature. Interactions with medications have also been described for some of the top five herbal products (Table 5).

Recommendations for the use of herbal products came most commonly

from family (44%). This may have influenced the desire to report adverse reactions or question the safety and effectiveness of these products. It is not surprising that so many recommendations came from family, since the use of herbal products in Chinese culture is typically passed down from generation to generation.

Health care utilization and disclosure. Even though only 52 participants reported having both a Western doctor and a CTD, 72 participants actually reported visiting both providers over the past 12 months. This discrepancy may indicate that, while participants may have visited both types of providers, many regarded only one as their primary health care provider. A larger difference was observed for those individuals with a chronic illness visiting only one type of doctor (56% Western doctor versus 10% CTD) compared with those without a chronic illness (40% Western doctor versus 22% CTD). This may be reflective of the need for continuous monitoring of chronic conditions. Participants with a chronic illness visited a Western doctor more frequently and were more likely to be using both Western medications and herbal products. Western doctors should be aware of this finding and ask Chinese patients about herbal product use.

Although a greater number of participants with only one doctor visited a Western doctor as compared to a CTD (50% versus 14%), they were much more likely to inform a CTD of their herbal product use. This may reflect a greater level of acceptance by CTDs in using herbal therapies in their practice. Some individuals reported visiting a Western doctor more often, since their health insurance covered the cost of visits. This finding is consistent with that of a study on the use of traditional and Western health services by Chinese immigrants in the Los Angeles and Houston areas,¹⁶ which found that a lack of health insurance was the pri-

Table 5.

Adverse Reactions of and Drug Interactions with Herbal Remedies

Herbal Product	Adverse Reactions	Interactions
Ginseng	Ginseng abuse syndrome (hypertension, agitation, insomnia, stomach upset, nervousness), estrogen effects (breakthrough bleeding, breast tenderness, gynecomastia) ¹⁴	Increased effect of antidiabetic drugs, antiplatelet drugs, estrogen products ¹⁴ Reduced effect of warfarin ¹⁴ Increased risk of insomnia, mania, and agitation with antidepressants, dopamine agonists, lithium, neuroleptics ¹³
Qing bu liang	Gastrointestinal distress from dried polygonatum Reduced blood glucose levels from pearl barley	Reduced effect of corticosteroids ⁷ Reduced absorption of various medications ⁷
Lycium fruit	None reported	Increased effect of warfarin ¹⁵
Dioscorea	Emesis ¹³	None reported
Dong quai	Photosensitivity, possible carcinogenicity of safrole component ⁷	Increased effect of warfarin ⁷

mary reason for not utilizing Western health services. The study reported a threefold increase in the likelihood of using Western health services among individuals who were insured.

Herbal product use in children. Half of the participants recalled giving herbal products to children, primarily in the form of soup. We anticipated a much higher percentage, based on the perception that herbal products are food and the participants' comments that they fed the same soup they ate to their children. One explanation for the low response rate may be due to participants' average age (56 years), perhaps indicating that their children were no longer living at home. Studies regarding the use of herbal products in children may be warranted, as more than half of the participants gave herbal products to their children.

Study limitations. As previously mentioned, a limitation of our study was the type of incentives used. The incentives were geared toward use in the kitchen and could have influenced the demographics of our study participants. Because of the low number of male participants, we were unable to fully characterize herbal product use among Chinese men. In addressing the use of health care providers, we were primarily in-

terested in Western physicians and CTDs and therefore excluded other disciplines, such as osteopathy. We were unable to determine the average number of prescription and nonprescription medications used per person, as some individuals only listed that they were taking medications, but neglected to say how many or what type. We could not elicit an indication for each herbal product reported because of a lack of information provided by participants. Sometimes, the method of preparation for a given herbal product was reported (e.g., herbal soup), but not the specific herbal product. In a few cases, some responses were not discernible because of dialect or translation issues. Also, a pilot study of the survey tool was not conducted in advance, so the accuracy of the survey's translation was based on the knowledge of those investigators who spoke Cantonese and Mandarin.

Upon administering the survey, we were able to identify that the question regarding concurrent use of herbal products and Western medications may have confused some participants and depended on their interpretation of what was meant by taking each "at the same time." Although 43% reported concurrent usage, the actual rate may have been as

high as 66%, based on the number of people who reported taking herbal products in addition to their daily Western medicines. A few survey participants reported spacing the administration of Western medications at least two hours apart from ingestion of herbal products. The knowledge to engage in this practice may be reflective of previous interventions by the participant's primary care provider or pharmacist regarding drug-drug or drug-herbal product administration. Although we asked participants if they disclosed their use of herbal products to their primary care provider, it would have been useful to ask about their reasons for not disclosing this information.

Conclusion. Herbal product use among San Francisco Bay-area Chinese residents was high. The five herbal products most commonly used were ginseng, qing bu liang, lycium fruit, dioscorea, and dong quai.

References

- Eisenberg DM, Davis RB, Ettner SL et al. Trends in alternative medicine use in the United States, 1990-1997. *JAMA*. 1998; 280:1569-75.
- Ehling D. Oriental medicine: an introduction. *Altern Ther Health Med*. 2001; 7(4):71-82. [Erratum, *Altern Ther Health Med*. 2001; 7(5):22.]
- Wang C. Traditional Chinese medicine in Chinese-American communities, 1996. www.cam.society.org/issues/Attitudes.htm (accessed 2003 Dec 10).
- Kleinman A, Kunstader P, Alexander ER et al. *Medicine in Chinese cultures*. Washington, DC: National Institutes of Health; 1976:152-5.
- Chan K, Cheung L. Interactions between Chinese herbal medicinal products and orthodox drugs. Amsterdam: Harwood Academic; 2000:3.
- Young G. *The wisdom of the Chinese kitchen: classic family recipes for celebration and healing*. New York: Simon & Schuster; 1999:191-5.
- Jellin J, ed. *Natural medicines: comprehensive database*. Stockton, CA: Therapeutic Research Faculty; 2000:96, 360,380-1,442,483-7,620,681-2,1112.
- Bensky D. *Chinese herbal medicine: materia medica*, rev. ed. Seattle: Eastland; 1993:320,329-30,333.
- Zhu YP. *Chinese materia medica: chemistry, pharmacology and application*. Amsterdam: Harwood Academic; 1998:562.
- Huang KC. *The pharmacology of clinical*

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- herbs. 2nd ed. New York: CRC; 1999:243.
11. U.S. Census Bureau. American fact finder. San Francisco: 1053 Stockton St., San Francisco, CA 94108, Oakland: 388 Ninth St, Suite 290, Oakland, CA 94607. <http://factfinder.census.gov> (accessed 2003 Dec 15).
 12. Rotblatt M, Ziment I. Evidence-based herbal medicine. Philadelphia: Hanely & Belfus; 2002:387-95.
 13. Klasco RK, ed. AltMedDex system. Greenwood Village, CO: Thomson Micromedex. Edition expires 2004 Mar.
 14. Coon JT, Ernst E. Panax ginseng: a systematic review of adverse events and drug interactions. *Drug Saf*. 2002; 25:323-44.
 15. Lam AY, Elmer GW, Mohutsky MA. Possible interactions between warfarin and *Lycium barbarum* L. *Ann Pharmacother*. 2001; 35:1199-201.
 16. Ma GX. Between two worlds: the use of traditional and Western health services by Chinese immigrants. *J Community Health*. 1999; 24:421-37.