



Cultural diversity and medication safety

Census reports in the US show that 1 in 4 Americans are of a race other than Caucasian; 1 in 3 children are African American, Hispanic, or Asian; and 1 in 10 people are foreign-born.¹ Such cultural diversity can have implications for medication safety. Ethnic culture affects our beliefs about health, illness, and medications, as well as how we interact with healthcare providers, comply with prescribed medications, and respond physiologically to drugs. While ethnic differences are vast, a few common themes found in the literature are provided below as examples.²⁻⁴

Beliefs concerning health, illness, and medications.

When illness or injury strikes, Caucasian patients are typically intolerant to pain, unlike patients from many other cultures, where pain is seen as part of life. Caucasian patients also have a high expectation that their disease will be cured or well managed through technology and powerful drugs. Most Caucasian Americans expect to leave the doctor's office with a prescription. They believe that the management of microbes is more important than bolstering resistance to them. Thus, American medicine tends to be aggressive, with its primary focus on the effectiveness of treatment, and a fairly high tolerance to side effects. In Japan, a drug's safety profile is stressed more than its effectiveness, which explains the general use of lower doses and fewer reported side effects. European medicine reflects a mid-position between American and Japanese cultures. Immigrants from different cultures may, therefore, have different expectations regarding the type of drug prescribed, dosages, and tolerance to side effects.²⁻⁴




For example, while Hispanics and Asians often expect quick relief from symptoms, they are cautious about American medicines and often initiate downward dosage adjustments to avoid even minor side effects. The Chinese also consider American medicine to be quick and effective in removing symptoms, but not a permanent cure. Since they believe that traditional Chinese medicine can remove the cause of the illness, they often use American medicine for acute illness, surgery, and severe disease, and rely on Chinese medicine for long-term treatment.²⁻⁴


Interaction with health-care providers. When they are dealing with non-minority healthcare providers, minority patients often find eye contact, body posture, and other forms of nonverbal communication significant, especially if a language barrier is present. For Asian patients, who may be accustomed to a formal relationship with their healthcare providers, a casual appearance, attire, or attitude may damage the development of a trusting relationship. Even when comfortable with healthcare providers, some Asian or Hispanic patients may be reluctant to speak up about their illness. Out of misplaced deference for doctors and a reluctance to share deeply personal information, they may minimize or conceal adverse events, or stop taking medications because of the side effects without telling their providers. Family involvement may be important, too. In Hispanic families, the mother or grandmother (of the husband especially) usually makes the healthcare decisions. The opinions of Asian family members and elders are also greatly respected during illness.²⁻⁴

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All is not as it seems...

 What drug should have been given based upon the order below?

100 mg Protomix IV

 In this case, the drug **PROTONIX** (pantoprazole sodium) 100 mg was given instead of the prescribed protamine. Protonix is used to treat erosive esophagitis associated with gastroesophageal reflux. Protamine inactivates heparin.

Two additional mix-ups were also reported recently. In one case, a poorly handwritten order for Protonix 40 mg IV daily was transcribed as protamine 40 mg IV daily. Luckily a pharmacist caught the error before the wrong drug was dispensed. In the other case, a nurse transcribed a verbal order for protamine 40 mg IV push but the pharmacist misread the entry as Protonix. When the pharmacist called to say he'd be sending a piggyback of Protonix since it should not be given IV push, the nurse discovered the error.

Neither of the above patients received the wrong medication, and the patient in the first example who received the wrong drug was not injured. However, harmful errors are possible. A patient with gastrointestinal bleeding who receives protamine instead of Protonix could be harmed by the paradoxical anticoagulant effects of high-dose protamine (particularly in the absence of heparin). Or, treatment could be delayed in a patient who needs protamine to reverse the effects of heparin but is given Protonix.

To avoid errors, always match the patient's diagnosis with the drug's indication before administration to be sure it makes sense. Many times drugs with look- and sound-alike names are used for very different purposes.

Cultural diversity continued

Adherence to medication regimes. Ethnic beliefs may play a role in the early discontinuation of prescribed drugs. For example, African Americans and Native Americans often doubt the need for medications when symptoms ease, and may discontinue drugs like antibiotics and antidepressants. In some developing countries, medications are customarily prescribed for just a few days. This knowledge may thwart the acceptance of drugs with a delayed onset, such as antidepressants. Hispanics also tend to believe that the lack of symptoms means they are cured. This could be especially problematic in treating diabetes, a prevalent illness in the Hispanic community. When symptoms abate, patients may stop taking their medication. Diabetes is a challenge for Asian Americans, too. The disease is uncommon in Asia, so it's difficult for patients to grasp the relationship between blood sugar and diet. Dietary requirements also do not fit well with the way Asians think about food.²⁻⁴

Cultural preferences, rituals, or fears may also affect adherence with medications. Women from Islamic and African cultures who have vaginal yeast infections may prefer oral drugs to vaginally inserted medications. Latin Americans expect injections, so they may believe that oral medications are less effective. Some cultures practice religious fasting, which can affect medication schedules or interfere with drug absorption. Mexican and Puerto Rican patients' concerns about the addictive effects of medications can lead to reluctance to take chronic medications for the long term. Vietnamese patients may take just half of their prescribed medication, believing it's too strong.²⁻⁴

Physiologic response to medications. Due to some specific genetic traits, ethnicity may play a role in how fast patients metabolize drugs. Therefore, dose adjustments may be necessary at times. For example, Asians and Eskimos need lower doses of anxiolytics than Caucasians. Asians, Indians, and

Pakistanis require lower doses of lithium and antipsychotic drugs. African Americans' symptoms generally improve faster after taking neuroleptics and anxiolytics. Hispanics may require lower doses of antidepressants than Caucasians. However, metabolism of drugs within the same class may vary since some may be cleared by a different metabolic pathway.²⁻⁴


Pointing out ethnic differences can be a touchy subject because of fear of offending people. In fact, it's unwise, even false and prejudicial, to assume that everyone from a certain culture will respond the same way. However, these examples of ethnic diversity serve only to point out that we are all members of an ethnic group, each with cultural values that influence our behavior and physiologic response to medications. That knowledge alone should help us avoid a "we/they" attitude when caring for patients from a different culture than our own.

The large number of ethnic cultures in the US makes it hard to be culturally competent. But we can approach patients with respect while assessing their likelihood of acting on cultural beliefs that could adversely affect treatment outcomes. Individuals who are recent immigrants; live in ethnic enclaves; prefer using their native tongue; travel frequently to their native country; and have frequent contact with others within their ethnic group are more likely to follow strongly held cultural beliefs. While misinformation or lack of information should be addressed, we should strive to bring effective healthcare to patients within a psychosocial context that is appropriate for their culture.²⁻⁴

References: (1) US Census Bureau: US Census 2000 (www.census.gov/main/www/cen2000.html). (2) Levy R, Hawks J. Cultural Diversity and Pharmaceutical Care. Reston, VA: National Pharmaceutical Council; May 1999. (3) Burroughs VJ, Maxey RW, Levy RA. Racial and ethnic differences in response to medicines: towards individualized pharmaceutical treatment. *J Natl Med Assoc* 2002;94:1-26. (4) Pavlovich-Danis S. Ethnicity and culture vary medicinal effects. *Nurs Spectr* (Phila/TriState). 1999;Oct 4:18-19.

safetywires

 **Web translations.** Looking for educational materials for your Asian language-speaking patients? Check out **SPIRAL** (Select Patient Information Resources in Asian Languages: <http://spiral.tufts.edu/about.html>), a joint initiative of South Cove Community Health Center and Tufts University Hirsh Health Sciences Library (Boston). Health information is available in the following languages: Cambodian/Khmer, Chinese, English, Hmong, Korean, Lao, Thai, and Vietnamese. Medications and medication safety are two of the topics covered. All materials are free to copy, distribute, and display for nonprofit purposes.

 **Enteral feeding interactions.** Serious drug-nutrient interactions that alter the bioavailability of drugs may be poorly recognized with enteral feedings. The most notable interactions occur with phenytoin, quinolones, and warfarin (Finch C, Self T. Medication and enteral tube feedings: clinically significant interactions. *J Crit Illness*. 2001; 16: 20-21). The administration of these drugs must be coordinated with schedules for withholding and restarting the feeding. For example, one drug reference (*Micromedex*) recommends holding the feeding for 2 hours before and after giving the drug. Ask a pharmacist for a list of the most serious interactions. If using computer-generated medication administration records, also ask the pharmacy to include a special warning about important drug-nutrient interactions with the drug entry.

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