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Folk medicine in the Southwest

Myths and medical facts

Culture-bound syndromes began capturing the imagination of Western scientists when 19th-century explorers, missionaries, and scholars discovered illnesses that did not exist within the boundaries of Western medicine. These folk illnesses—and their often spectacular cures—have been a constant theme in the literature on culture and medicine since the turn of the century. Recently, folk illnesses have become an important focus for determining the links between mind, culture, physiology, and health.

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Culture-bound syndromes are folk-defined illnesses treated within the context of a particular culture but not thought to fit modern medical definitions and diagnostic categories. Their "causes" and "cures" are magical, religious, or in some other way widely divergent from Western rationalism. They are most commonly relegated to the realm of the imaginary, which has caused folk illnesses to be dismissed from consideration as physical phenomena, unworthy of attention or intervention.

In this article, I challenge the conventional position that folk illnesses are unworthy of attention. During the past three years, researchers have begun to rethink the relationships between culture-bound syndromes and pathologic conditions¹⁻¹³ and to explore the impact of these illnesses beyond the psychosomatic. The primary research on this issue has taken place within Hispanic communities.

Background

Three culture-bound syndromes have held the analytic attention of researchers working in Hispanic communities: *caída de mollera*, a fallen or depressed anterior fontanelle; *susto*, often defined as fright sickness; and *empacho*, a blockage of the intestines. These three syndromes have a widespread geographic occurrence. They are com-

monly treated in Mexican-American households but do not interfere with people seeking help from physicians for medically recognized conditions, as will be seen by the data presented in this article.

Methods

Data were collected through 2,009 interviews conducted in 35 migrant and public health clinics in the southwestern United States. The clinics were located in 31 towns from Brownsville, Texas, to Yuma, Arizona. Of the total surveyed, 1,341 informants identified themselves as Mexican-American, 102 as Spanish-American (the preferred designation in northern New Mexico), 455 as Mexican, two as undifferentiated Hispanic, six as black, one as Asian, 98 as white, and four as other. The informants who identified themselves as black, Asian, white, and other were all unaware of the three culture-bound syndromes and are excluded from the following analysis. Fifty-four persons (2.69%) refused to be interviewed. The percentage of persons interviewed in each state depended on the availability of clinics in that state; 81.3% of the informants were interviewed in Texas, 13.7% in New Mexico, and 5.0% in Arizona.

Surveys at each clinic were conducted for one week, beginning on Monday morning. Every third patient was interviewed, regardless of his or her reason for visiting the clinic. Once 10% of the interviews were completed, interviewing was sus-

continued

SPECIAL ARTICLE CONTINUED

**During the past three years,
researchers have begun to rethink
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beyond the psychosomatic.**

Table 1. Households treating folk illnesses

| Location | <i>Empacho</i> (%) | <i>Susto</i> (%) | <i>Caida de mollera</i> (%) | Households (No.) |
|-------------------|--------------------|------------------|-----------------------------|------------------|
| Arizona | | | | |
| Tucson | 63.0 | 69.6 | 69.6 | 46 |
| Somerton | 25.0 | 10.4 | 16.3 | 49 |
| Combined | 43.6 | 39.4 | 42.1 | 95 |
| New Mexico | | | | |
| Portales | 80.0 | 32.3 | 29.0 | 31 |
| Albuquerque | 47.6 | 28.6 | 24.6 | 126 |
| San Miguel | 31.2 | 15.9 | 19.4 | 32 |
| Sunland Park | 32.3 | 27.3 | 15.2 | 37 |
| Anthony | 18.2 | 18.2 | 11.8 | 34 |
| Combined | 43.7 | 27.4 | 21.1 | 260 |
| Texas | | | | |
| Bracketville | 43.9 | 56.1 | 24.4 | 41 |
| Eagle Pass | 46.8 | 51.3 | 27.0 | 79 |
| Hereford | 83.3 | 33.3 | 33.3 | 13 |
| Floydada | 81.2 | 60.7 | 46.7 | 37 |
| Crosbyton | 68.3 | 34.2 | 45.9 | 41 |
| Plainview | 37.8 | 27.6 | 25.3 | 99 |
| Goldwaite | 58.3 | 11.1 | 21.7 | 48 |
| Gonzales | 31.9 | 29.2 | 31.3 | 48 |
| El Paso | 37.5 | 29.2 | 3.1 | 96 |
| Muleshoe | 33.3 | 32.6 | 35.7 | 43 |
| Dimmitt | 48.9 | 48.7 | 37.5 | 46 |
| De Leon | 37.5 | 35.1 | 18.4 | 40 |
| San Saba | 96.3 | 35.0 | 19.0 | 28 |
| Levelland | 72.0 | 49.5 | 44.6 | 101 |
| San Angelo | 84.0 | 69.4 | 61.2 | 50 |
| Laredo | 43.4 | 55.6 | 19.3 | 215 |
| Olton | 33.3 | 30.0 | 28.6 | 29 |
| Odessa | 68.0 | 50.0 | 64.0 | 50 |
| Littlefield | 44.4 | 30.0 | 39.0 | 45 |
| Crystal City | 50.5 | 55.1 | 11.7 | 99 |
| Cotulla | 40.6 | 55.1 | 16.2 | 103 |
| Presidio | 64.1 | 40.5 | 2.7 | 39 |
| San Antonio | 67.3 | 59.4 | 44.1 | 98 |
| Harlingen | 43.9 | 46.0 | 39.6 | 57 |
| Combined | 51.9 | 45.6 | 28.6 | 1,545 |
| Total | 50.4 | 42.8 | 28.3 | 1,900 |

***Caida de mollera*, a depressed anterior fontanelle, is believed to be caused by such actions as pulling the baby away from the breast or bottle too quickly.**

pended until the afternoon; then, another 10% were completed. This procedure was followed each day the clinic was open. The percentage of households in the survey that treated each of the three folk illnesses at least once is indicated in table 1.

Caida de mollera

Caida de mollera affects infants from birth to the time the anterior fontanelle, or soft spot, closes. When the anterior fontanelle is depressed, *caida de mollera* is thought to be present.

Caida de mollera is believed to be caused by pulling the baby away from the breast or bottle too quickly, holding or carrying the baby incorrectly, letting the baby fall to the floor, tossing the baby in the air too hard, or otherwise bumping the baby's head. The suction from pulling the nipple away while the baby is still nursing is thought to pull the fontanelle down from the inside. A bump from other causes is thought to make the fontanelle drop. Symptoms of *caida de mollera* are listed in table 2.

During the interviews, informants were allowed to mention as many symptoms as they thought were important. The resulting data were analyzed for symptom clusters, and the following clusters were identified.

Cluster 1: diarrhea, loss of appetite, fever, restlessness or irritability, excessive crying, vomiting sometimes accompanying other symptoms (depressed anterior fontanelle assumed; not explicitly mentioned by informant).

Cluster 2: "mucousy" or watery eyes, inability to grip nipple and nurse, changed sound of nursing, excessive crying, irritability or restlessness (depressed fontanelle assumed; not explicitly mentioned by informant).

Cluster 3: excessive drooling, diarrhea, sunken

Table 2. Symptoms of *caida de mollera*

| Symptom | Informants mentioning (No.) |
|------------------------------------|-----------------------------|
| Diarrhea | 43 |
| Excessive crying | 35 |
| Fever | 29 |
| Loss of appetite | 24 |
| Restlessness/irritability | 20 |
| "Mucousy," watery eyes | 18 |
| Inability to grip nipple | 16 |
| Vomiting | 14 |
| Change in sound of nursing | 10 |
| Sunken eyes | 9 |
| Bump on palate | 7 |
| Listlessness | 7 |
| Insomnia | 7 |
| Paleness | 7 |
| Stomach pains or cramps | 5 |
| Weakness | 4 |
| No pulse or movement in fontanelle | 3 |
| Dehydration | 3 |
| Excessive salivation | 2 |
| Runny nose | 2 |
| Bloated, rigid stomach | 2 |
| Loose jaw | 2 |
| Chills | 1 |
| Constipation | 1 |
| Gingival inflammation | 1 |
| Heavy perspiration | 1 |
| Weight loss | 1 |

eyes, inability to nurse, changed sound of nursing (depressed fontanelle explicitly mentioned by informant).

These symptom clusters were presented to physicians in the survey area who agreed to make a "blind" diagnosis of each set before being told how the set was derived. For symptom cluster 1, these physicians suggested the diagnosis of severe

continued

The symptoms of *caida de mollera* mentioned by informants in this survey would make physicians want to rule out at least one, if not several, life-threatening conditions.

Table 3. Ranking of common treatments for *caida de mollera*

| Treatment | Informants mentioning (No.) |
|---|-----------------------------|
| Push up on palate | 234 |
| Hold upside down, hit heels | 90 |
| Put soap foam on fontanelle | 57 |
| Turn upside down, shake | 42 |
| Put soap and salt in fontanelle, turn upside down, shake | 40 |
| Suck on fontanelle | 31 |
| Push on palate, oil fontanelle, turn upside down, hit feet | 15 |
| Put salt water in mouth, suck on fontanelle, hold upside down | 10 |
| Put egg on fontanelle, pull on hair, put upside down | 10 |
| Massage head, pull up hair, put upside down, hit feet | 10 |
| Put mixed egg on fontanelle | 9 |
| Put olive oil on fontanelle, pull hair with a crucifix | 8 |
| Dip head in water | 8 |
| Turn on back, push up on palate | 7 |
| Squeeze head, put egg on fontanelle | 7 |
| Spit mouthful of water into fontanelle | 6 |
| Place patch soaked in oil on fontanelle | 5 |
| Pull hair, push on palate | 5 |
| Rub liniment and egg white on fontanelle | 4 |
| Put oil on mouth | 3 |
| Take to <i>curandero</i> (folk healer) | 3 |

gastroenteritis leading to dehydration and possibly acidosis. Common local causes of this condition are *Shigella* dysentery, amebic dysentery, and bacterial or viral gastroenteritis.

The physicians felt that the second cluster was more difficult to assess. The depressed fontanelle suggested dehydration, but the "mucousy," wa-

tery eyes would not be present in cases of severe dehydration. The most probable diagnosis was an upper respiratory infection, with a general systemic infection running a close second. The physicians stated that it would be necessary to rule out CNS infections (eg, meningitis), which are common in the local population.

The physicians identified the third cluster of symptoms as being caused by severe gastroenteritis with dehydration and probably acidosis.

The conclusions reached by the physicians suggest that *caida de mollera* constitutes a potentially serious public health problem in Mexican-American communities. Two of the symptom clusters suggest illnesses that lead to dehydration, because a sunken fontanelle generally occurs only when dehydration is life-threatening, with a 10% loss of body weight due to fluid loss.¹⁴⁻¹⁶ All three symptom clusters would make physicians want to rule out at least one, if not several, life-threatening conditions that would warrant some form of therapy.

Table 3 lists the treatments for *caida de mollera* presented by three or more informants. Since these folk treatments are predicated on the assumptions about the causes of illness previously described, none of them provides adequate therapy, although tea would at least mitigate the dehydration.

If *caida de mollera* corresponds primarily with dehydration, the data for Arizona become more understandable. Of the three states in which interviews were conducted, Arizona has the lowest average humidity. Therefore, dehydration in infants would be more common there than in Texas and New Mexico even if average temperatures were similar. If dehydration persists in infants for any significant length of time, the prognosis is grim.

Susto pasado, an exaggerated or persistent form of fright sickness, is considered potentially fatal.



Figure 1. Altar of *curandero* (Mexican-American folk healer). Objects on altar are used for magical elements of folk cures.



Figure 2. Young man being given *barrida* (magical sweeping or cleansing) for culture-bound syndrome of *susto* (fright sickness).

Susto

Susto is translated as fright sickness. In Mexican-American communities, a person becomes *asustado* (a victim of *susto*) when he or she is involved in a startling event. Persons may be scared by a dog chasing or trying to bite them, a car accident, a horror show, or any other frightening event. Such events are thought to dislodge a person's spirit from the body. If the event is *mildly* frightening, calming teas may resolve the *susto*. However, for other levels of fright, stronger therapeutic measures that involve magical rituals are necessary.

Symptoms of *susto* include daytime drowsiness, nighttime insomnia, irritability, jumping at sounds (exaggerated startle reflex), diarrhea, and depression. *Susto pasado* (called *espanto* in some regions) is a severe form of the illness. It

has the same symptoms as *susto*, although in exaggerated or persistent form, and is considered potentially fatal.

A common pattern of treatment discovered through ethnographic research is to try herbal teas first and then attempt other treatments. If the symptoms of *susto* persist, *barridas*, or ritual cleansings, are initiated and are often accompanied by ingestion of herbal or other teas. If the illness persists or progresses to the severe form, *susto pasado*, the sufferer is taken to a *curandero*, or folk healer, for more powerful magical help (figure 1). Table 4 presents the treatments for *susto* that were mentioned by at least three informants in the survey population.

A *barrida* is a magical purification ritual in which brushing of objects over the body, combined with prayer, is used to draw or push out
continued

In a magical purification ritual called a *barrida*, brushing of objects over the body, combined with prayer, is used to draw or push out the harm affecting a person.

Table 4. Ranking of common treatments for *susto*

| Treatment | Informants mentioning (No.) |
|---|-----------------------------|
| Unspecified <i>barrida</i> (ritual sweeping) (many with unspecified tea) | 213 |
| Prayer | 77 |
| <i>Barrida</i> with candle | 62 |
| Sugar water (internal) | 52 |
| <i>Barrida</i> with <i>piedra alumbre</i> (alum) | 50 |
| <i>Barrida</i> with egg | 48 |
| <i>Barrida</i> with <i>pirul</i> (branch of local tree) | 24 |
| <i>Barrida</i> with <i>pirul</i> and <i>te de yerba buena</i> (mint tea) | 24 |
| <i>Barrida</i> plus <i>te ruda</i> (rue tea) | 20 |
| Water (internal) | 15 |
| <i>Te de yerbaniz</i> (tea of <i>Tegedes lucida</i> CAV) | 14 |
| Suppository of herbs and petroleum jelly or soap | 12 |
| <i>Barrida</i> plus <i>te de yerbaniz</i> | 11 |
| Take to <i>curandero</i> (folk healer) | 9 |
| Unspecified tea | 8 |
| Massage | 7 |
| Garlic suppository | 7 |
| Rub oil on chest or head, make 3 signs of the cross, pray | 6 |
| Put sheet over person, give <i>barrida</i> with holy water and <i>pirul</i> | 6 |
| <i>Barrida</i> plus <i>te de yerba buena</i> | 5 |
| Cover person with sheet, sweep with broom, pray | 5 |
| Say prayers while sweeping with cloth | 4 |
| <i>Barrida</i> with egg and then broom | 4 |
| Pray, place circle of lime around bed | 4 |
| Pray, sprinkle with holy water | 4 |
| <i>Te de yerba buena</i> | 3 |
| Cover with sheet, sprinkle with alcohol, pray | 3 |

the harm affecting a person (figure 2). In the case of *susto*, these sweepings or cleansings restore the harmony of the soul and body that was disrupted by the frightening event. If the cause of the fright is not immediately known, some of the objects perform the added function of assisting in identification of the cause, since *susto* can occur some time after the frightening event. For example, after a *barrida*, *piedra alumbre* (alum), which has been used in the ritual, may be burned. The burning is thought to form an image of whatever caused the fright. The burned *piedra alumbre* is inspected for any images it contains, and the images are used to further explore the cause of the illness and aid in its cure. Over one third of the *barridas* described by the informants included the ingestion of an herbal tea, most commonly *yerbaniz* (*Tegedes lucida* CAV).

Use of the *barrida* ritual has suggested to many investigators that *susto* is primarily of psychosocial significance. Two lines of evidence strongly suggest otherwise.

The first is the inclusion of herbal teas and sugar water as cures or parts of the *barrida* ritual. Regardless of the physiologic parameters of *susto*, the teas themselves all contain bioactive compounds.¹³ Therefore, there are potentially significant physiologic consequences to the treatment of *susto* regardless of the characteristics of *susto* itself. The extensive use of sugar water as a treatment provides some support for Bolton's⁹ hypothesis that *susto* is linked to stress and hypoglycemia.

Second, and far more important, is the direct, clinically based evidence that *susto* is linked to a variety of medical conditions. Rubel, O'Neill, and their associates¹⁰⁻¹² have demonstrated that people who are *asustado* are sicker than the general patient population of a clinic. They have a significantly higher disease load, have diseases that are

**An intestinal blockage called
empacho has recently received considerable
attention because of the discovery
that two relatively common remedies are
commercial oxides of lead.**

more serious than those of the overall patient population, and have a significantly higher mortality rate. This evidence suggests that it would be extremely erroneous to discount *susto* as purely psychosomatic and without physiologic consequences.

Empacho

Recent studies of *empacho* reflect another significant direction for research into the consequences of a culture-bound syndrome. While *caida de mollera* and *susto* can be linked to potentially fatal disease states, recent research on *empacho* demonstrates that treatment of folk illnesses, apart from any relationship to physical illness, may have important implications for research on health and culture.¹⁷⁻¹⁹

Empacho is believed to be caused by a bolus of food that sticks to the wall of the intestine or by some other form of intestinal blockage. Eating improperly cooked foods (eg, tortillas) or certain foods at the wrong time (eg, bananas late at night), swallowing chewing gum, swallowing saliva during teething (ie, instead of drooling), and having to eat foods that one does not like are all thought to cause *empacho*.

The major symptoms of *empacho* are bloating of the stomach or "stuffiness" in the stomach or intestines, constipation, indigestion, diarrhea, vomiting, and lethargy.

The most common treatments for *empacho* are massages intended to physically dislodge the bolus and ingestion of herbal teas and other substances that are supposed to break up the blockage and flush it out. Diarrhea after treatment is often taken as a sign of successful treatment.

Data from the present survey as well as other ethnographic research indicate that infants are at highest risk for *empacho*, followed by children up to the age of 10 or 11 years. Teenagers are



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also at risk. Women in the immediate postpartum period are at risk for a separate or special type of *empacho* caused by childbirth. *Empacho* also occurs, but to a lesser degree, in all other age-groups.

Empacho was treated at some time in 50.4%
continued

**Research shows that certain folk illnesses
can be linked to recognized biologic
conditions and therefore should not be analyzed
solely on the basis of sociocultural factors.**

Table 5. Ranking of treatments for empacho

| Treatment | Informants mentioning (No.) | Treatment | Informants mentioning (No.) |
|--|-----------------------------|--|-----------------------------|
| Massage | 630 | White grape skin | 11 |
| "Pop" skin on back | 387 | Go to doctor | 10 |
| Roll egg on stomach | 165 | Go to <i>curandero</i> (folk healer) | 10 |
| Olive oil (internal) | 163 | Olive oil, salt | 9 |
| Mixed herb tea | 144 | Enema | 8 |
| <i>Estafiate</i> (wormwood) tea | 137 | <i>Te de canela</i> (cinnamon tea) | 8 |
| Commercial laxative | 113 | <i>Teompillo</i> and mesquite tea | 8 |
| Massage with lard and baking soda | 95 | <i>Aceite de resin</i> | 8 |
| Chamomile tea | 80 | <i>Te ruda</i> (rue tea) | 7 |
| Castor oil (internal) | 76 | <i>Agua de pita</i> (palm pit liquid) | 7 |
| <i>Greta</i> (lead oxide) (internal) | 76 | <i>Te de yerbaniz</i> (tea of <i>Tegedes lucida</i> CAV) | 6 |
| <i>Te de yerba buena</i> (mint tea) | 59 | Rice water | 6 |
| <i>Bismuto</i> (bismuth nitrate) (internal) | 58 | <i>Anis</i> (anise) tea | 5 |
| Mesquite bark tea | 46 | <i>Ipazote</i> (worm weed) tea | 5 |
| Egg poultice on stomach | 41 | Milk of magnesia | 5 |
| Cooking oil (internal) | 35 | <i>Palmita</i> (palm) tea | 5 |
| <i>Anil</i> (laundry bluing) (internal) | 35 | Baking soda (internal) | 4 |
| <i>Asoque</i> (mercury) (internal) | 33 | 7-Up or Sprite and baking soda | 4 |
| Baby Percy (internal) | 32 | Vicks Vaporub | 4 |
| <i>Te de comino</i> (cumin tea) with sugar | 26 | Linoza seeds tea | 4 |
| Pepto-Bismol | 24 | <i>Ojase</i> tea | 4 |
| <i>Azarcon</i> (lead tetroxide) (internal) | 22 | Orange juice (internal) | 4 |
| Rose petal tea | 15 | <i>Albayarde</i> tea | 4 |
| <i>Raiz de nopal</i> (root of prickly pear cactus) tea | 15 | Ex-Lax | 3 |
| <i>Aceite gen</i> | 13 | Sugar water (internal) | 3 |

of all households in the survey. Percentages ranged from 18.2% in Anthony, New Mexico, to 96.3% in San Saba, Texas. The treatments were more numerous and varied for *empacho* than for any of the other folk illnesses studied and, as might be expected from the symptoms, were primarily physical remedies. Table 5 contains a ranking of the treatments identified by at least three persons in the survey.

The most commonly mentioned remedy is

stomach massage, using olive oil or another oil as a lubricant. Some informants also mentioned massage of other parts of the body; in Texas, the back was mentioned frequently, and in Arizona, the legs. The second most common treatment in most areas is to roll the person onto his or her stomach and grab or pinch the skin in the small of the back and pull on it until it "pops." The popping sound is taken as an indication that the bolus or blockage has been dislodged. Another

common remedy involves rolling an egg (or just the yolk) on the person's stomach while a prayer is recited. The "energy" from this ritual opens the intestines. Most of the other remedies mentioned (84.6%) are biophysiological, involving herbs, oils, and compounds taken internally.

The symptoms of *empacho* suggest that it, like *caida de mollera*, may be linked to a medically diagnosable condition. However, no attempt has yet been made to establish such a relationship. *Empacho* has recently received considerable attention in the ethnomedical literature because of the discovery that two relatively common remedies, *greta* and *azarcon*, are commercial oxides of lead and have caused numerous cases of lead poisoning in the Southwest.¹⁷⁻¹⁹ When surveys were conducted to measure the levels of use of *greta* and *azarcon*, two other potentially toxic substances were discovered. In some regions of New Mexico, *asoque*, or elemental mercury, was being ingested to treat *empacho*. In Arizona, some people were ingesting *anil*, or laundry bluing, some types of which contain the toxic aniline dye. This, too, suggests that a reevaluation of culture-bound syndromes is long overdue.

Summary and conclusions

The three folk illnesses described in this article—*caida de mollera*, *susto*, and *empacho*—can all be linked to recognized biologic conditions and therefore cannot be analyzed solely on the basis of sociocultural factors. Clearly, it would be a mistake to continue ignoring these syndromes in the Southwest on the assumption that they are "all in the mind" of Mexican-American patients. They must be assessed from the view that they are culturally different labels for serious medical conditions (eg, *caida de mollera*), that they are useful screening labels for patients with high disease loads (eg, *susto*), or that they are harmless in and of themselves but their treatment may have significant medical consequences (eg, *empacho*). FGM

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