

Letters to the Editor

Letters to the Editor will be reviewed and are published as space permits. By submitting a Letter to the Editor, the author gives permission for its publication in the Journal. Letters should not duplicate material being published or submitted elsewhere. Those referring to a recent Journal article should be received within 3 months of the article's appearance. The Editors reserve the right to edit and abridge and to publish responses. Submit three copies. Both text and references must be typed double-spaced. Text is limited to 400 words and fewer than 10 references.

Reprints can be ordered through the author whose address is listed at the end of the letter.

Mercury Use in Espiritismo: A Survey of Botanicas

Despite the well-known hazards of mercury exposure,¹⁻⁵ practitioners of *espiritismo*, a spiritual belief system indigenous to Puerto Rico and other Caribbean islands,⁶ have been reported to use mercury.⁷⁻⁹ We surveyed New York City stores selling mercury for spiritual practice to clarify misperceptions and alert public health workers about possible mercury presence in homes in which *espiritismo* is practiced.

Mercury goes by the name of *azogue* and is sold in botanicas, stores that specialize in selling religious items used in *espiritismo*, voodoo, and Santeria, a Cuban-based religion that venerates both African deities and Catholic saints. Botanicas also sell herbs used in folk medicine and for general health promotion.

Our interviewer visited 41 botanicas in low-income New York City Hispanic communities between March and May of 1995, asking store personnel about the

cost, sales, uses, and purchasers of mercury. We found that nearly 93% of botanicas sold about one to four capsules (about 9.0 g⁹) of mercury daily at an average cost of \$1.50 (see Table 1). Botanica personnel estimated that Puerto Ricans, Dominicans, and "other Hispanics" make up about 90% of mercury buyers and that more than two thirds of buyers are women.

Mercury is usually recommended by family members, spiritualists, card readers, and santeros (practitioners of *Santeria*). The two primary reasons given for mercury use are for good luck and protection from evil and the envy of others. Through anecdotes, we learned that because mercury "flows smoothly," it provides good luck and, as a result of its slippery nature, prevents evil from sticking to the person. The most often recommended manner of using mercury is carrying it on one's person in a sealed pouch that should be prepared by someone with spiritual "powers." Sprinkling mercury in the home is another common form of use.

Our survey shows that mercury is quite easy to purchase, and the manner of use may create situations of constant exposure to potentially high levels of mercury vapors in the immediate atmosphere. Of course, more research is needed. In particular, explorations of mercury levels in inner-city communities should include adherents of spiritualism as well as nonadherents since the latter may be exposed unwittingly to mercury poisoning by residing in apartments and homes previously inhabited by mercury-sprinkling tenants. Also, because of mercury's neurobehavioral effects, pediatricians, psychiatrists, and learning specialists should be alert to its potential presence in children.^{2,4,5,10}

As providers of community health and mental health services in underserved

TABLE 1—Reports by Botanica Personnel of Mercury Sale and Use for Spiritual Practices, New York City

Mercury Sale and Use Data	Botanicas Reporting (n = 41), No. (%)
Sale	
Sell mercury	38 (92.7)
Do not sell	3 (7.3)
Volume of daily sales^a	
1-4 capsules	20 (48.7)
5-10 capsules	12 (29.2)
11 or more capsules	3 (7.3)
Dispensing forms	
Capsules	33 (80.5)
Larger quantities	2 (4.8)
Both forms	3 (7.3)
Source of recommendation for mercury use^b	
Family member	16 (39.0)
Spiritualist	16 (39.0)
Friends	15 (36.5)
Card reader	14 (34.1)
Self	9 (21.9)
Santero	4 (9.7)
Books	1 (2.4)
Condition for which recommended^b	
Luck in love, money, work, health	32 (78.0)
Protection against evil	23 (56.0)
Protection from envy	1 (2.4)
Method of use^b	
Carried in sealed pouch	20 (48.8)
Sprinkled in home	12 (29.3)
Carried in pocket	13 (31.7)
Sprinkled in car	1 (2.4)
Consumed in small quantities	1 (2.4)

^aOnly 35 botanicas provided information on daily or weekly sales.

^bOften, more than one source, condition, or method was reported; therefore, percentages exceed 100%.

areas, we recognize the public health threat of dispensing mercury. However, we recommend also that the dangers of mercury be sensitively separated from the social-psychological benefits of spiritualism. In inner-city Hispanic communities, *espiritismo* is an indigenous source of community socialization and support. Spiritualists frequently represent the first line of extrafamilial mental health intervention. Since botanicas also sell medicinal plants and herbal remedies, they offer some basic health care familiar to the cultures of Latin America. Therefore, public health interventions must be aimed at helping spiritualists find safe alternatives to mercury. □

Luis H. Zayas, PhD
Philip O. Ozuah, MD

The authors are with the Department of Family Medicine, Albert Einstein College of Medicine and Montefiore Medical Center, Bronx, NY; Dr Zayas is also with the Graduate School of Social Service, Fordham University, Tarrytown, NY.

Requests for reprints should be sent to Luis H. Zayas, PhD, Graduate School of Social Service, Fordham University, Tarrytown, NY 10591.

References

1. Agocs MM, Etzel AE, Parrish GR, et al. Mercury exposure from interior latex paint. *N Engl J Med.* 1990;323:1096-1101.
2. Campbell SS. Acute mercurial poisoning by inhalation of metallic vapor in an infant. *Can Med Assoc J.* 1948;58:72-75.
3. Curtis HA, Ferguson SD, Kell RL, Samuel AH. Mercury as a health hazard. *Arch Dis Child.* 1987;62:293-295.
4. Davis LE, Kornfield M, Mooney HS, et al. Methylmercury poisoning: long-term clinical, radiological, toxicological, and pathological studies of an affected family. *Ann Neurol.* 1994;35:680-688.
5. Yeates KO, Mortensen ME. Acute and chronic neuropsychological consequences of mercury vapor poisoning in two early adolescents. *J Clin Exp Neuropsychol.* 1994; 16:209-222.
6. Bird HR, Canino I. The sociopsychiatry of "espiritismo": findings of a study of psychiatric populations of Puerto Rican and other Hispanic children. *J Am Acad Child Psychiatry.* 1981;20:725-740.
7. Peyser A. Ritualistic poison. *New York Post.* September 12, 1991:5.
8. Rauch KD. The spiritual use of poisonous mercury. *Washington Post.* August 13, 1991:7.
9. Wendroff AP. Domestic mercury pollution. *Nature.* 1990;347:623.
10. Fagala GE, Wigg CL. Psychiatric manifestation of mercury poisoning. *J Am Acad Child Adolesc Psychiatry.* 1992;31:306-311.

Blood Lead Levels, Scientific Misconduct, and the Needleman Case

1. A Reply from the Lead Industry

Together, industry, government, and the public health community have made great progress in reducing blood lead levels in this country. It is regrettable that a supposedly peer-reviewed journal with the stature of the *American Journal of Public Health* would choose to print the ill-conceived and misleading annotation by Ellen Silbergeld on the Herbert Needleman case.¹

A carefully worded accusation in the opening line of Silbergeld's article charges that the lead industry somehow misused the National Institute of Health's Office of Scientific Integrity to attack Dr Needleman. Lead Industries Association, Inc, the trade association for the lead industry, has never contacted the Office of Research Integrity or anyone associated with it with respect to this case. To imply that Lead Industries Association, Inc, or this industry, has "used" the Office of Scientific Integrity or has had any influence on the deliberations of that organization is totally false and insults the Office of Scientific Integrity and its successor, the Office of Research Integrity.

The charges against Dr Needleman stemmed from a 1990/91 Environmental Protection Agency court case involving the Sharon Steel Company (not a lead company). The testimony of Dr Needleman, an expert witness for the government in that case, was challenged by expert witnesses Dr Claire Ernhart and Dr Sandra Scarr. The judge ordered Dr Needleman to make available his original data to these scientists in order to substantiate his statements. Dr Needleman, who received government grant money to perform research, previously had refused to reveal these data to the public.

A partial review of Dr Needleman's data by Drs Ernhart and Scarr apparently suggested enough irregularities to warrant further investigation, and since the research was sponsored by government funds, Drs Ernhart and Scarr filed a complaint with the Office of Scientific Integrity. The Office of Scientific Integrity then requested the University of Pittsburgh to conduct an inquiry.

The final report of that inquiry found "no evidence of deliberate falsification," as selectively quoted in the Journal article, but did find "a deliberate misrepresentation of procedures." This part of the finding was omitted from Silbergeld's article. The report concluded that "Dr. Needleman was deliberately misleading in the published accounts of the procedures used in the 1979 study." The board unanimously recommended that Dr Needleman submit corrective statements to the journals in which his original studies were published and that he make his complete data set available to any investigator. The Office of Research Integrity reiterated these same findings in its oversight report released in March 1994.

The lead industry never attempted to influence the University of Pittsburgh, the Office of Scientific Integrity, or their inquiries, and to imply otherwise is false.

Other implied accusations in the Silbergeld article, such as that the lead industry tried to stifle the truth about lead exposure and lead poisoning, are equally untrue, as evidenced by a careful reading of her text. For example, she states that the industry association's "greatest triumph" occurred in 1925 when "it overrode opposition to the introduction of tetraethyl lead as a gasoline additive." However, in the previous sentence she states that the association was founded in 1928, a full 3 years after it supposedly achieved its "greatest triumph." This obvious error makes us wonder whether your publication gave any sort of critical examination to the Silbergeld article before publishing it.

We are proud of our industry's outstanding record of encouraging proper use of our product. Lead today is safely used in vehicle batteries, electronic products such as computers and TVs, x-ray shielding, and scores of other applications that benefit society. □

Jerome F. Smith

Requests for reprints should be sent to Jerome F. Smith, Lead Industries Association, Inc, 295 Madison Ave, New York, NY 10017.

Reference

1. Silbergeld EK. Annotation: protection of the public interest, allegations of scientific misconduct, and the Needleman case. *Am J Public Health.* 1995;85:165-166.

2. The Critics' Arguments

Dr Ellen Silbergeld portrayed Dr Herbert Needleman as a "courageous man of intellectual integrity" wrongfully