

Ritual Use of Mercury (Azogue) Assessment and Education Project

Final Project Report

Submitted to the Environmental Justice Office
MA Executive Office of Environmental Affairs



Conducted by the
JSI Center For Environmental Health Studies

August 7, 2003

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The Ritual Use of Mercury Assessment and Education Project was conducted during the month of June, 2003 by the JSI Center For Environmental Health Studies in collaboration with Family Service, Inc. and the Lawrence Teen Coalition. The project's primary goals were to 1) assess the use of mercury (azogue) for ritual and spiritual purposes among Latino residents in Lawrence, MA and 2) conduct education and outreach programs on the hazards to public health and the environment associated with its use. Latino community residents and teens were hired and trained to administer surveys to groups and individuals in Lawrence and educate them about safer alternatives to mercury use. The entire program was conducted within a one-month time period and project partners are to be commended for their efforts to complete the program within the time constraints.

I. Background

The use of mercury for ritual purposes was brought to the attention of the project partners by community residents engaged in *Casa de Salud*, an EPA funded education and outreach program for the Latino population in Lawrence, MA. Through reports from Casa Leaders (Latino residents hired to conduct environmental health educational programs in Lawrence), we learned that people practicing Espiritismo, Santeria, or Voodoo carry mercury in pouches as a charm, swallow it in drinks or as capsules, sprinkle it around a child's bed or inside a car for protection, or burn it in candles to ward off evil spirits, bring good luck, or for love spells. In discussions with local health care providers and the Mayor's Health Task Force, we found that much of the health care community was unaware of these practices and the potential health effects that this particular mercury exposure posed for their patients. Through the project we sought to learn more about the extent of mercury use among Lawrence residents for targeted educational programs and to increase understanding of the potential need for remediation in homes where residual mercury may pose a threat to residents.

II. Scope of Work

To meet the goals of the project we developed a multi-faceted program with the following elements:

A. Background Information

To begin, we researched what is known about religious and spiritual mercury use. We conducted searches on the Internet and talked to people working for public interest organizations such as Northeast Waste Management Officials Association and the Hispano Health Council. We contacted government agencies such as the Environmental Protection Agency and the Massachusetts Department of Environmental Protection Mercury Hotline, and talked to owners of botanicas (specialty shops that sell products for religious and spiritual uses). While we learned a great deal about how mercury is used, we have not been able to find out how mercury was introduced into religious practices. Some religious practices, such as Santeria and Espiritismo,

are herbal-based and have their beginnings among African shaman. These practices were brought to Latin America with the slave trade and have evolved over time and and taken root in Latin cultures. Somehow mercury has been introduced into these practices and is believed to have magical and curative powers.

B. Design Survey Form

Based on our research we designed a survey instrument for individual or group administration to ascertain the extent of mercury use among the Latino population of Lawrence and how and why the mercury is used. The instruments were translated into Spanish and pilot tested by a group of Casa Leaders and teens hired to work on the project. Problems were corrected in revised instruments. Please see attached survey forms.

C. Design Informational Brochure

JSI researched, wrote and designed an educational brochure, *Is Mercury Poisoning You? - ¿Le esta matando el Mercurio (Azogue)?* that was printed in both Spanish and English and distributed to residents who participated in the survey effort. Copies of the brochure have also been made available to residents from botanicas, bodagas (neighborhood grocery stores), neighborhood shops, churches, and the public library. Please see attached brochures.

D. Hire and Train Casa Leaders and Teens

To conduct educational programs and administer survey forms we hired and trained twelve Casa Leaders working for Family Service and six teens working with the Lawrence Teen Coalition. The first training program, conducted by Claire Paradiso of the Lawrence Teen Coalition, was based on a specially designed PowerPoint presentation that covered general information about sources of mercury, such as mercury thermometers and fluorescent light bulbs, and the effect mercury has on public health and the environment. The second training program, conducted by Gretchen Latowsky of JSI, focused on ritual uses of mercury, conducting educational programs, and administering survey instruments. Both the Casa Leaders and the teens reviewed various fact sheets on mercury and fish, sources of mercury contamination, how to handle mercury spills, as well as the original and revised brochures on the ritual use of mercury. As a result, they were well versed on the sources of mercury exposure, how it contaminates the environment and home, how to handle spills, and how mercury, including its ritual uses, impacts human health, particularly that of children and pregnant women.

E. Education for Botanicas

We hired and trained Raquel Novi, a Spanish speaking Lawrence resident, to visit botanicas and bodagas to educate owners and employees about the health hazards associated with using mercury in religious and ritual practices. As part of Raquel's training and our own education, we visited a number of shops to talk with owners. We learned about various mercury containing products that are sold, such as capsules selling for \$5.00 - \$7.50 that contain 10 times the amount of mercury found in a thermometer and pouches containing plastic disks with charms, metal shavings, and small capsules containing mercury. These pouches, which are sold for \$20, are carried in pockets or purses to bring good luck. We also learned about materials that

can be used as alternatives to mercury, which are considered to have the same religious and curative powers. Some of these products, such as La Bomba, which is used to cleanse the house of evil spirits, is made of turpentine, creosote, and ammonia and may pose its own threat to public health and the environment. As part of this project, the MA DEP's Wall Experimental Station in Lawrence is conducting tests on some of the alternative products to find out if they also contain hazardous components. Herbal-based products sold in the botanicas have been listed in our educational brochure as safe alternatives to mercury and are actually similar to herbal remedies, which form the basis for traditional ritual and spiritual practices.

Raquel's meetings with botanica owners revealed interesting information. Several owners reported that they do not sell mercury anymore. One person told her that she was fined by the city for selling it, but we have not been able to confirm this fact. Another told Raquel that her distributor told her it was illegal to sell mercury. At least two owners were not aware that mercury use was hazardous. One was very interested in learning more about its hazards and another was quite defensive about selling it. Most of the shops agreed to distribute brochures to customers and stop selling mercury, but it will be necessary to follow-up with the botanicas to find out if the practice is discontinued.

F. Administer Survey and Educate Participants

Over a three week period during the month of June, twelve Casa Leaders and six teens administered surveys and conducted educational programs at various locations across the city. The locations included Demoulas Market Basket, Greater Lawrence Family Health Center, the Spanish Festival, Hispanic Week meetings, Dominican Night, Puerto Rican Night, botanicas, bodagas, beauty salons, barber shops, laundries, churches, HIV support groups, day care providers, family networks, Hancock public housing project, youth groups, and Northern Essex Community College.

III. Results

Out of 898 surveys completed, 344 people (38%) reported that they knew someone who uses, or has used, mercury for religious, spiritual, or health purposes or that they used it themselves. We were not particularly surprised by this response because the Casa Leaders reported that a lot of people used mercury for ritual purposes and one botanica owner told us that every day someone comes in to buy mercury. Yet, the response helped us to focus on the actual amount of mercury being released into residential units. For example, the botanicas sell capsules containing 9 grams of mercury. If each "yes" response represents a one-time mercury purchase and use, we can assume that among our study population at a minimum 6.8 pounds of mercury has been released in homes in Lawrence. (9 grams x 344 = 3,096 grams = 6.8 pounds.) A larger, more definitive, citywide study would provide far better data about the extent of the problem. While such a study would be interesting, we feel we have sufficient knowledge about the extent of mercury use to recommend that allocation of limited resources be used for prevention and remediation programs.

It is interesting to note that there were significant differences in the data from surveys administered by teens compared with those administered by adult Casa Leaders. Out of 444 surveys administered by Casa Leaders, 254 (57%) responded "yes" to the question "Do you know anyone who uses, or has ever used mercury for religious, spiritual, or health purposes?"

The “yes” response to the same question on surveys administered by teens was 90 (20%). It's difficult to interpret the difference in responses between the Teens and the Casa Leaders, but in a joint meeting, the Teens and Casa Leaders reported that they thought it was a generational difference. Some teens participating in the survey reported that they never heard of using mercury for spiritual/ritual purposes. Others reported that they had never used it but that their mother or grandmothers used it or talked about having used it. The Casa Leaders, however, reported that many respondents were aware of its use, reported that they used it or had used it in the past, and that their mothers and grandmothers use it or had used it in the past. Please see attached data sheet for detailed responses.

IV. Recommendations

This has been a very important and informative project and there is clearly a need for additional funding to carry on this important work. We were very pleased to learn that most people involved in the assessment were very interested in learning about the hazards associated with mercury use and expressed a willingness to seek safer, alternative products. Many were quite concerned about their own past use, although no one inquired about testing their home for residual mercury. As a result of our increased learning about the issue we offer the following recommendations.

1. Continue community education programs and distribution of the informational brochure at community events, through the Greater Lawrence Family Health Center and other health care providers, and in neighborhood stores. Essential to the success of this effort is hiring and training Latino residents who speak the language, understand the culture, and are accepted in the community.
2. Continue educational programs with owners of botanicas, bodagas, and card readers and in Lawrence to encourage them to promote and sell safer alternative products.
3. Conduct a concentrated educational media campaign with Spanish radio, TV, and the press.
4. Share lessons learned in Lawrence with community organizations, health care providers, and local government agencies to encourage similar educational programs among Latino communities across Massachusetts. Make copies of the educational brochure available for their use.
5. Research assessment and remediation technologies available for reducing mercury levels in homes and ascertain relative costs.
6. Work with local, state, and federal agencies to develop a strategy and assign responsibility to assess and remediate homes where there is ongoing mercury exposure.
7. Seek funding from appropriate agencies to conduct education and outreach regarding the need for remediation in residential units and to implement a mercury remediation project.

V. Conclusion

We are very grateful to the Environmental Justice Office of the Executive Office of Environmental Affairs for funding this project, particularly Tony Chaves, Environmental Justice Coordinator, for his interest and support. We are also grateful to Doris Anziani, Community Coordinator for Casa de Salud, who supervised the Casa Leaders; Madeline Garcia from the Teen Coalition, who supervised the teens; Raquel Novi from Family Service, Inc., who educated botanica owners; Rachel Kohn from JSI who helped with survey design; Kay Frishman and Liz Sweeney of Family Service, Inc.; and Claire Paradiso of the Lawrence Teen Coalition. And most important we want to thank the Casa Leaders and Lawrence teens who conducted the education program and administered surveys. Without this joint effort this project would not have been possible.

Submitted by:
Gretchen Latowsky, Project Director
JSI Center For Environmental Health Studies
glatowsky@jsi.com

Ritual and Spiritual Use of Mercury (Azogue) Survey Data

Total Number of Surveys: 898

Spanish Responses: 609

Casa Leaders: 313

Teens: 296

English Responses: 289

Casa Leaders: 131

Teens: 158

Survey Questions and Responses

1. How many of you know anyone who uses, or has ever used mercury (azogue) for religious, spiritual, or health purposes?

Total Number of Responses: 898

Yes: 344 (38%) No: 554 (62%)

Casa Leaders Survey Responses: 444

Yes: 254 (57%) No: 190 (43%)

Teens Survey Responses: 454

Yes: 90 (20%) No: 364 (80%)

Comment: It is interesting to note that there were significant differences in the data from surveys administered by teens compared with those administered by adult Casa Leaders. Out of 444 surveys administered by Casa Leaders, 254 (57%) responded “yes” to the question “Do you know anyone who uses, or has ever used mercury for religious, spiritual, or health purposes?” The “yes” response to the same question on surveys administered by teens was 90 (20%). It's difficult to interpret the difference in responses between the Teens and the Casa Leaders, but in a joint meeting, the Teens and Casa Leaders reported that they thought it was a generational difference. Some teens participating in the survey reported that they never heard of using mercury for spiritual/ritual purposes. Others reported that they had never used it but that their mother or grandmothers used it or talked about having used it. The Casa Leaders, however, reported that many respondents were aware of its use, reported that they used it or had used it in the past, and that their mothers and grandmothers use it or had used it in the past.

2. How was it used?
- a) Carried as a charm on a chain or in a pouch? 155 (17%)
 - b) Swallowed in a drink? 91 (10%)
 - c) Sprinkled around a child’s crib or bed? 108 (12%)
 - d) Sprinkled in and around a car? 109 (12%)
 - e) Burned in candles or oil lamps? 152 (17%)
 - f) Applied to the skin? 143 (16%)
 - g) Put in baths and perfumes? 126 (14%)
 - h) Placed in a glass of water kept under a bed? 94 (10%)

3. What was it used for?
 - a) For religious reasons? 143 (16%)
 - b) To speed up healing? 149 (17%)
 - c) For good luck? 151 (17%)
 - d) For personal protection? 142 (16%)
 - e) To receive help from the gods? 117 (19%)
 - f) For love spells? 120 (13%)
 - g) To get rid of bad luck? 134 (15%)
 - h) To get rid of evil spirits? 127 (14%)
 - i) For stomach problems or illness? 83 (9%)

Comments:

To feel protected.

To feel better mentally and physically.

For personal good luck.

Keeps evil spirits away.

To dance better – Several respondents reported that they rubbed it on their hips so that they could dance better.

To take out the bad and bring in the new luck.

4. Was the use of mercury helpful?
 Yes: 62 (7%) No: 146 (16%) Don't know: 36 (4%)

Comments:

Mercury gave good luck.

Give good health.

It improved healing.

Helped son.

Hasn't worked yet!

I do it because I like it.

When used for a reason the problem was solved most of the time.

The love never came.

Changed life.

Just believed it helped them.

My luck changed.

Prevented harm.

Ha! Don't know!

5. Did the use of mercury affect anyone's health?
 Yes: 31(3%) No: 175 (19%) Don't know: 31(3%)

This data is somewhat unreliable because we don't know what a yes answer meant to the respondent. Some responders reported that mercury affected their health because it is dangerous and toxic. One person replied that it caused paralysis, another that it caused cancer, and another that it caused allergies and asthma. Yet, many people reported that it improved healing.

6. Have any of the following alternatives been used instead of mercury for religious, spiritual, or health purposes? (Not at the same time as mercury.)
 - a) Herbs such as rompe zaraguey? 142 (16%)
 - b) Plants such as pasote, combined with Agua de Florida? 149 (17%)

- c) Plants such as pasote, combined with Bomba Santera? 127 (14%)
- d) Agua de Florida for medical or other reasons? 136 (15%)
- e) Oil rubbings for medical or other reasons? 135 (15%)
- f) Arcangel prayer card? 133 (15%)
- g) Santa Cruz deCaravaca prayer card? 116 (13%)
- h) San Miguel sword? 139 (15%)
- i) Incense or myrrh? 176 (20%)

Anything else?

Camphor (which is used for stomach problems and digestion.)

7. Where do people get mercury?

- a) From a botanica? 247 (28%)
- b) From a person selling it out of their home? 104 (12%)
- c) From a thermometer? 189 (21%)

Other?

Dominican Republic: 2

Comments:

People won't stop using it unless it's against the law.

Some of them aren't going to tell you the truth.

The research is stupid for thinking Lawrence didn't know about mercury.