

streamline

The Migrant Health News Source

Reducing Obesity Rates Among Families

Cheryl Mason FNP

The National Health and Nutrition Examination Survey (NHANES) for the years 2001-2002 shows an increasing level of obesity among adults and children over the last decades within the United States. The NHANES for 2001-2002 shows 15.5% of children qualify as overweight (defined as body mass index, or BMI, above the 95th percentile for age), and 32% of adults qualify as obese (defined as BMI > 30). Among Latinos, obesity rates run even higher, with boys ages 12-19 at 26.5% and females ages 40-59 at 47.7%. Obesity increases the risk of many diseases, especially insulin resistance, a condition which many would consider "pre-diabetes". An increased incidence of Diabetes Type II (DM II) has long been noted among Latinos. A study by Goran, et al (2004) suggests that Latino children of even normal weight show a higher rate of impaired glucose tolerance (IGT), making obesity among Latino children an even greater concern. In addition to DM II, obesity is a significant risk factor for a number of other diseases and disorders.

The following article provides a snapshot of the impact of obesity at two clinic sites in Ventura County, California. Clinicas del Camino Real (CDCR) operates 6 clinics within Ventura County providing healthcare for the underserved. The population consists primarily of low-income immigrant families and migrant farm workers. Many of the adult patients are already hypertensive and/or diabetic. Through investigating potential interventions to reduce obesity rates among the population before major morbidities, such as DM II, were identified, it is important to look at studies done on causes and treatments of obesity. From the information gathered at two clinical sites, Oxnard and Fillmore in Ventura County, the following article includes a proposal for a 3 month, family based program targeted at children between the ages of 7 and 12 who have a BMI of greater than the 95th per-

centile for their age (PFA Efforts are focused here because this format and age group shows the greatest potential for intervention. Many of the resources discussed may be utilized for other age groups and individual intervention, and this program can also serve as a foundation for the development of programs addressing other diseases.

Causes of obesity: Multiple studies exist on factors leading to the rising incidence of juvenile obesity. Ariza et al (2004) found that overweight Latino children were more likely than their peers to watch TV more than 3 hours a day during the weekdays, to drink sugar sweetened beverages daily, to have overweight parents, and to have free access to food in the home. Agram, et al (2004) found the strongest correlate to childhood obesity was parental obesity and the difficulty of helping parents to identify being overweight as a problem. Agram also mentioned that overweight children averaged up to 30 minutes less sleep per night. Haas, et al (2003) found a strong correlation with adolescent obesity and low economic status and lack of insurance. This suggests that regular contact with medical providers can make a difference. In a large study by the Henry J. Kaiser Foundation, the number of hours a day spent watching television is the strongest indicator for childhood obesity. They suggest that not only the hours displaced from participating in physical activities, but the exposure to constant food ads, the majority of which are unhealthy, leads to unhealthy eating habits. Taveras (2004) also notes the increased number of hours reported watching TV, the increased intake of sugar sweetened beverages, and a decreased percent of involvement in sufficient, vigorous, daily activity as contributors to obesity.

Interventions: Research on potential interventions for obesity can be discouraging. A booklet by BMJ Publishing Group (2004) consists of a meta-analysis of recent studies utilizing surgical interventions, medications,



and programs consisting of diet and/or lifestyle change among adults and children. The pharmacological interventions that have shown promise among adults are Sibutramine (Meridia) and Orlistat (Xenocal), both of which demonstrated an overall weight loss of 6 – 11 pounds or about the same amount as programs based on lifestyle change. The largest study utilizing Metformin showed negligible weight loss. The BMJ booklet concluded that even effective treatments for obese adults, other than surgery, produced only a modest weight loss of 6- 11 pounds. Sibutramine and Orlistat are not covered by Medical, except possibly through special request. Weight loss surgery can be covered by Medical but requires extensive documentation of unsuccessful previous interventions with a severely obese patient.

The good news is that interventions with obese children have shown great potential. Pharmacological intervention with Metformin combined with diet in one large study showed a greater loss (13 pounds) compared to placebo group (7 pounds) after

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only 8 weeks. However, Metformin is approved for children over 10 years old for treatment of DM II only, not for insulin resistance or weight loss (BMJ, 2004).

In looking at lifestyle change programs for obese children, the BMJ booklet notes the best outcome for changing lifestyles includes family based, multifaceted programs in which the child and parent participated separately.

Cultural Considerations. In "No Se Come Nada" (2004), a humorous article on challenging Latino child feeding patterns, pediatrician Richard Garcia states that he often feels like a lone voice competing with generations of "abuelitas" and "suegras" who always ask young mothers why their normal weight child is so thin. But Garcia notes that many health habits have changed over time, from the use of car seats to our views on smoking cigarettes. Changing habits is an uphill climb, but it can be accomplished. He points out that it is important to remember that these women are doing what they believe is best for the child, and it is the job of the health professional to help them understand that overfeeding is not in their child's best interest. A study by Crawford et al (2004) looked at the attitudes of Latina women regarding their children's weight. Of particular interest, the study found the following:

1. Thinness was especially worrisome to immigrant Latinas, who associated it with malnutrition and disease and had difficulty perceiving being overweight as a threat to their child's health.
2. The mothers persistently rated "being part of a loving, attentive family" as the most important value when it came to raising happy children.
3. The women expressed fear of allowing their children to play unattended at the nearby parks, while expressing regret that they did not have time to accompany them.

4. The women expressed appreciation for having a facilitated group "where we can learn from each other."

Characteristics of the population at the Oxnard and Fillmore Clinics: Both clinics are extremely busy, making any sort of official survey burdensome to staff. The population is relatively homogenous and came to the clinic most often for well child exams, female annual exams, prenatal visits, headaches, GERD, and the disease of the week (URI, strep, etc.). The population surveyed was comprised of patients who had, in general, not yet developed a chronic illness. The following statistics include an examination of: Length of time in this country, transportation, and BMI (or %BMI for age in children).

Transportation: In 18 well child exams, 2 children were brought in by their father, 13 by their mother, and 3 by another relative. Of these 18 families, 2 had access to more than one vehicle; 10 took the bus, walked, or got a ride from someone (it is not clear if they could have drove themselves); and in 6 the father either carpooled to work that day or was not working, thus freeing up the one vehicle.

BMI: Total of 44 patients (excluding prenatal exams and children < 2 years of age). Kids 2 – 18 totaled 32. Kids with BMI > 95th PFA (Overweight) = 12. Percent of kids qualifying as overweight that week = 37.5%. Adults totaled 12. Adults with BMI >30 = 4. Adults qualifying as obese = 33%.

Length of time in the USA: Of the 56 adults and children seen in one week, 11 had been in this country less than one year; 32 had been in the U.S. from 1-5 years; and 13 had been in the U.S. for more than 5 years.

While this represents a small sample and could

vary from site to site, this one week sample indicates that for the population served by the Oxnard and Fillmore clinics, childhood obesity is a major health concern, transportation is a major issue in seeking healthcare or committing to a program, and language barriers and legal status may represent a significant barrier in seeking health information and assistance.

Provider Survey

A survey was sent to Oxford and Fillmore providers in July 2004 requesting current information on their interest in treating and preventing obesity, their current approach to treatment of obesity, their comfort level in discussing obesity, and their ideas for improving the current standard of care. Of 22 questionnaires, 14 were returned. To summarize:

1. Within their clinic, BMI was only being assessed on well child exams and whenever indicated. It was not routinely assessed even on adult physicals.
2. All the providers expressed a concern for obesity as a health concern, comfort in discussing the issue with their patients, recent research into treatment of obesity, and a desire to have more standardized system for the identification and follow up of obese patients.
3. Those providers that had made referrals to Kidshape complained that their referral had been turned down or they had received no feedback from the program except when patients did not show up.
4. The routine procedure for identified obese patients was to draw Liver Function Tests (LFTs) Thyroid Stimulating Hormone (TSH), Glucose (fasting if possible), Lipids and in about half the cases, fasting insulin or C-peptide. There is now a pediatric obesity panel, which includes most of these. Two pediatricians indicated that it is a good tool to help parents understand

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Obesity Resources

ANR Publications <http://anrcatalog.ucdavis.edu> or 1-800-994-8849. UC Davis Agriculture Department. Each of these items is available in both Spanish and English: "Escoja Alimentos Sanos (Choosing Healthy Foods)" \$1.00/copy, "Que Deben Hacer Los Padres de Ninos que Pesan Mucho? (What Can Parents Do When Their Child is Overweight?)" 17pp, \$1.75/copy, and the 14 minutes video "Children and Weight: What's a Parent to Do?" \$20.00. There is a price break for 20% for order of 10-49 of the same item and 25% for orders of 50 or more of the same item.

KIDSHAPE: www.kidshape.com. The website has an outline of their program online which could be used as an outline or for ideas as needed.

American Cancer Society: www.cancer.org or 1-800-227-2345. Excellent pamphlet in both Spanish and English called "Tome Control (Take Control)" which covers a wide range of health issues including exercise, maintaining a health weight and protection from skin cancer. Up to 100

can be ordered for free. They also have Spanish speaking cancer specialists and several pamphlets on cancer in Spanish.

American Heart Association: www.americanheart.org or 1-800 242-8721. Pamphlets in Spanish and English: "A Move Over (Get Moving)" and "Controlando Su Peso (Controlling Your Weight)". Up to 10 are available through their website.

The CDC website (<http://www.cdc.gov/nccdphp/dnpa/bmi/index.htm>) has excellent information on why BMI is an important tool for tracking healthy weight. The site also has a BMI calculator.

MCN's website has a number of nutrition and diabetes resources and links. Go to www.migrantclinician.org/excellence/diabetes for additional information.

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obesity as a health risk when a lab value was out of order.

5. All providers expressed a wish for increased accessibility to the dietician.
6. Many providers desired a flow sheet to help with continuity of care.
7. The dietician in Oxnard asked for a referral form to be developed and filled out by the provider to help her utilize her time more effectively with the patient.

Summary: Addressing obesity among the population served by CDCR and other clinical sites will take a multidisciplinary approach. Coordination by administration will be essential to provide the support and encouragement to maintain ongoing awareness and initiative to take action.

The providers surveyed are aware of the problem of obesity in the population served by CDCR and most seem very motivated to take part in a more standardized approach to identifying and following up on obese and overweight patients, particularly children. But obesity cannot be addressed until it is identified. Therefore, in each room where vital signs are taken there should be an adult BMI chart. Familydoc.org and the CDC website both have BMI calculators. (See Resources on page 2 for details). CDC flow sheets for monitoring BMI for age should be available. The most important function of the medical provider, other than screening for adverse health consequences, is to provide a supportive relationship with the patient, and particularly with parents, and emphasize their concern on the impact of being overweight on health. Encouragement for even small steps is essential.

The providers surveyed indicated that nutritional counseling is a problem at CDCR. Currently, the dieticians are only available at

the Ventura and Oxnard clinics. Transportation, as we have seen, is a big issue for the clients at the Fillmore clinic. However, even at the Oxnard clinic there is a high rate of no shows for dietary services, although these services are currently offered free of charge. Nutritionists are essential in the treatment of all diseases influenced by obesity, and particularly in the counseling of children, where growth requirements are a factor.

Health educators can take a more active role in coordinating the care of obese patients through increasing their own understanding of obesity and its health impacts. They can also increase access to culturally appropriate educational material for their patients.

The above suggestions represent minimal changes that could be done to begin to iden-

tify and address obesity among families. Having outside participants will help build the bonds with the community that these families need, while the focused care of our own providers, dietician and health educators will help emphasize the importance that is being attached to this health problem. Hopefully, bonds can be formed with community businesses to allow for small prizes and other incentives to keep the families involved.

Obesity involves many factors and needs to involve a multi-level approach. Staff and patients need to remember that any positive change will have a positive outcome. Therefore, encouragement and persistence are the keys to any successful strategy. ■

Cheryl Mason is one of the 2004 MCN Migrant Health Practicum participants.

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MCN Seeks 2005 Unsung Hero Nominations

In 1990, the Migrant Clinicians Network established its Annual Unsung Hero Award as a way to honor one of the unrecognized clinicians in the field of migrant health. The Award winner will receive an expense paid trip to the 2005 Annual Migrant Health Conference in San Juan, Puerto Rico, where he or she will be honored.

Nominees for the Unsung Hero Award are distinguished by their demonstrated dedication to migrant health, participation in a variety of areas in migrant health care delivery, innovation in service delivery and prevention strategies, clinical leadership, and lack of previous recognition for their contributions to migrant health.

To nominate your Hero, please submit the clinician's name, address, telephone number, and a short paragraph describing why you believe the nominee is a Hero to: jhopewell@migrantclinician.org or mail it to Jillian Hopewell, Migrant Clinicians Network, 1309 Orchard Way, Chico, CA 95928, (530) 345-4806 voice and fax. Nominations should be received by MCN no later than March 21st, 2005.

Subcutaneous Injection of Mercury: “Warding Off Evil”

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Editor's Note: This case was first presented by Dr. Prasad at the 2003 National Farmworker Health Conference during the Grand Rounds sponsored by MCN. This article is reprinted with permission from Environmental Health Perspectives, Volume 112, Number 13, September 2004, pp 1326-1328

Abstract

Deliberate injection of mercury, especially subcutaneous injection, is rare but is seen in psychiatric patients, individuals who attempt suicide, those who are accidentally injected, and boxers who wish to build muscle bulk. Metallic mercury plays a major role in ethnic folk medicine. Neurologic and renal complications can result from high systemic levels of mercury, and subcutaneous injection usually results in sterile abscesses. Urgent surgical evacuation and close monitoring for neurologic and renal functions as well as chelation (if toxicity is indicated) are key aspects of treatment. Education of the adverse effects and dangers of mercury is important, especially in pregnant women and children. As increased immigration changes demographic patterns, proper disposal of mercury and preventing its sale and use should become urgent societal priorities. Psychiatric consultation should be obtained whenever appropriate.

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Case Presentation

Injection of elemental mercury is uncommon, and only 72 cases have been reported in the literature over the past 75 years. Of these 72 cases 46 were deliberate; most involved direct intravenous administration, usually with suicidal intent (Kayias 2003), or they were a complication of drug abuse. Bradberry et al. (1996) reported an attempted homicide by this means. Self-injection has also been reported in psychiatric patients (Soo et al. 2003), and accidental injections have been reported (Ellabban et al. 2003). Subcutaneous injection of mercury by accident (including injuries from broken thermometers), self-injection, and suicide attempts has been reported (Chodorowski et al. 1997; Ellabban et al. 2003; Smith et al. 1997; Soo et al. 2003).

A search in MEDLINE and PubMed (National Library of Medicine, Bethesda, MD) did not reveal any study or report on injection of mercury in the subcutaneous space of the hands for the sole purpose of preventing infections and “evil” during foreign travel. This practice is apparently common in several Central and South American countries. In this

case report, I present such an injection received by a couple in Honduras before they traveled to the United States.

G.B., a 41-year-old Hispanic woman, and her partner, V.V., a 35-year-old Hispanic male, came to the clinic together. Both had wet towels wrapped around both their forearms and hands. They reported having pain for 5 days as well as swelling in the hands and low-grade subjective fever. The pain was localized to the dorsum of the hand and forearm, with no radiation, and was moderate in intensity and continuous, with no specific aggravating or relieving factors. The swelling and redness was localized to the same areas on the dorsum of the hand. They reported no history of bites or stings, and they had no swollen glands or joint pain. A review of systems was otherwise negative.

Both patients gave a history of having received multiple injections of mercury at a roadside nonmedical facility in Honduras about 1 week before their clinic visit. They did not know about the sterility of the procedure or if needles/syringes used were disposable. On further questioning, they indicated that the injection of mercury is a common practice among people who wish to travel abroad. The reason for their injections was to ward off “evil” and also to protect against exposure to any unknown diseases while traveling in a foreign country. The patients estimated that the injections for both hands in both patients was < US\$1.00.

Both G.B. and V.V. denied any significant allergies or past medical history. They were both nonsmokers and denied alcohol or drug abuse.

A physical exam revealed G.B. to be an obese Hispanic woman in obvious distress due to pain in both hands and forearms. The general exam was unremarkable, and a local exam revealed a diffuse soft tissue swelling on the dorsum of both hands, with fluctuation, redness, and pointing (most prominent part of swelling in an abscess that marks the area of imminent rupture) in the first web space of both hands. Redness and swelling was also noted all along both forearms, with significant tenderness. No lymphadenopathy was noted. Lungs and heart were normal, and there was no renal angle tenderness and no hepatosplenomegaly. The neurologic exam was normal.

V.V. was a tall, medium-built Hispanic male in distress from pain. The general exam was unremarkable, and the local exam revealed findings similar to those for his partner, with fluctuation, redness, and tenderness in the dorsum of the hand and first web space and in the forearms. Otherwise, the exam was unremarkable.



Laboratory values for G.B. were as follows: glucose, 101 mg/dL; blood urea nitrogen (BUN), 14 mg/dL; creatinine, 0.8 mg/dL; sodium, 138 mmol/L; potassium, 4.1 mmol/L; chloride, 105 mmol/L; carbon dioxide, 22 mmol/L; calcium, 9.5 mmol/L; liver function tests, normal; white blood cell (WBC) count, 8,700/ μ L; hemoglobin, 12.6 g/dL; hematocrit, 37.6%; urine mercury, 11.3 μ g/L; and serum mercury, < 5.0 μ g/L.

Laboratory values for V.V. were as follows: glucose, 108 mg/dL; BUN, 26 mg/dL, creatinine, 1.1 mg/dL; sodium, 138 mmol/L; potassium, 4.2 mmol/L; chloride, 97 mmol/L; carbon dioxide, 26 mmol/L; calcium, 10.2 mg/dL; liver function tests, normal except for alanine aminotransferase, 64 U/L (normal, 4-60 U/L); WBC count, 8,700/ μ L; hemoglobin, 16.0 g/dL; hematocrit, 48.3%; and blood mercury, 100 μ g/L (normal < 10 μ g/L). Urine mercury analysis was not performed because the laboratory lost V.V.'s urine samples.

A diagnosis of abscess was made, and both patients underwent incision drainage of both hands. Thick pus was evacuated along with beads of metallic mercury (Figures 1-3). Complete evacuation of all visible mercury, about 0.5 mL, was performed and wounds were thoroughly washed with copious amounts of saline. The fluid removed was sterile pus (result of milder inflammation caused by irritants, foreign bodies, etc., but not due to infection). The soaked gauze and dirty sheets were disposed in regular waste.

Postoperatively, the wounds granulated and healed well by secondary intention (left open to heal by epithelization). Since that time, the patients have been lost to follow-up.

Discussion

Mercury is sold as “azogue” in religious stores, or botanicas, for use in Esperitismo (spiritual

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belief in Puerto Rico), Santeria (Cuban practices), and voodoo. The mercury is often carried personally in a pouch or spread around the house or bed, mixed in the bath, or burned in devotional candles. Mexican-Americans take it orally to relieve empacho (indigestion), especially in infants and children. Mercury is difficult to remove, and it can remain in carpets, walls, and homes for long periods.

The form of mercury consumed in fish is mainly methyl mercury, and mercury from occupational and dental exposure is elemental mercury. Both forms are absorbed and can have serious consequences (Magos 1997).

Concerns about mercury contamination have been growing in predominantly Hispanic and Caribbean neighborhoods. In New York City, neurotoxic levels of mercury vapor from magicoreligious and ethnomedical uses of mercury have been reported (Wendroff AP, personal communication). Wastewater samples from a residential neighborhood in Washington Heights had highly elevated mercury levels on two occasions. Secondhand exposure from previous tenants sprinkling

mercury on floors also remains a problem because the contamination can remain for over a decade. Mercury exposures resulting from magicoreligious use are often greater than those occurring by eating fish or from dental amalgams (Wendroff AP, personal communication).

In a survey at the Montefiore Medical Center in New York in 1996, Zayas and Ozuah (1996) studied the sales of mercury in the Bronx area of New York City. Of the 41 botanicas they located, 38 sold elemental mercury; in 1995, 35 of the 38 botanicas sold about 25,000-155,000 capsules or vials (mean weight, 9 g) for spiritual practices. Of the users, 29.3% said that it was “sprinkled in the home” (Zayas and Ozuah 1996).

In an effort to raise the awareness among pediatricians about the possibility of toxic exposure to mercury in children, Goldman (2001) reported on the use of mercury in Santeria among immigrants from Haiti and other Caribbean nations, in which elemental mercury was sprinkled around the house. Riley et al. (2001) reported a 5% prevalence of elevated mercury levels in urine of 100 children

in Bronx, New York, in August 2001. Of these children, 55% were Latino and 43% were African American (Riley et al. 2001).

In a study in Massachusetts, 898 people were surveyed in the Lawrence area, which has significant Latino and Caribbean populations (JSI Center for Environmental Health Studies 2003). The survey showed that 91 people swallowed mercury in a drink, 143 applied it to their skin, 152 burned it in candles, and 108 sprinkled it around their homes. The study authors estimated that a minimum of 6.8 lb of mercury had been released into the community through magicoreligious use. Forty percent of the Latinos in the Lawrence area knew about azogue or used it themselves. The authors were especially concerned about the large number of apartments that may have been severely contaminated.

Attempts by power companies to replace pressure-control devices for domestic gas supply has led to mercury spills, affecting 200,000 homes in one incident (Clarkson et al. 2003). High levels of mercury exposure can result

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Notes From the Field: Thoughts on a Home Visit

Abby Pike, CNM

Editor's Note: Abby Pike is one of the 2004 MCN Migrant Health Practicum New Providers. The Practicum is a program that provides for a four-month working and learning experience in a migrant health center for new health care professionals. New Providers are nurse practitioners, physician assistants, nurse-midwives, and dental hygienists, who have completed the training program for their profession and have an interest in working with migrants. The purpose of the program is to increase the sensitivity and understanding of migrant health care issues for the New Providers as they consider careers working with underserved populations. Applications are currently being accepted for the 2005 program year. If you are interested in hosting a New Provider or participating as a new graduate, you can find out more information at www.migrantclinician.org or by contacting Candace Kugel at 814-238-6566.

I recently did a postpartum home visit for C, a 22 year-old woman who had just given birth to her third child. C previously lived in Guatemala in a small town with her 5 year-old boy and 3 year-old girl. Her husband used to drink and beat her. However, in her words, through divine intervention, he sobered up and stopped abusing her. He started to do work on the house, fixing things up, and making amends with his family. Then he was hit by a car and fell into a coma; he never awoke. At his funeral, his mistress verbally abused C and fronted as his wife, flaunting it in her face. The creditors

for the housework came around and C couldn't pay. They raped her in front of her children. She became pregnant and couldn't afford an abortion. She continued with the pregnancy, trusting that it was God's will. The mistress bragged all over town about the rape, defaming C's name. C felt like she had to flee. She left her children with her mother and made her way up to the US border with her brother. Immigration saw them coming, and though her brother got away, C was caught and incarcerated in Phoenix for 2 weeks. She was let out and given a court date to appear and defend her case. A woman she met in prison had a sister out here and gave her a call. Someone the sister knew came and got them in Phoenix. C now owes \$200 for this ride. Though she started out staying with the prison friend, she is now staying with some other women from the church she has been going to. They had a baby shower for her, but she is still in need of more clothes for the baby. She didn't qualify for Medi-Cal, so she's on a cash plan, knowing full well that she can't pay. She refuses additional services such as colposcopy for her abnormal pap smear. I visited C at home, two days postpartum. She was staying on a mat made of a folded comforter, sharing it with her newborn. She was recovering well physically from an easy birth. Her nipples were sore and cracked from breastfeeding, but she knew that was part of the deal the first week and accepted the

pain with a shrug. She had a way about her as if she was just going through the motions. She had an expert mother inside of her that had already cared for 2 babies, and instinctively knew what to do. She was emotionally dissociated though. She held her baby and was loving towards him, but never smiled and had an empty look in her eyes. I did my best to offer an open space for her to talk about how she was feeling, offer resources, and point out all the ways she was mothering so well. But what could I possibly do to make a real difference in her life during this home visit? I tried to work with her faith and her connection to her church as a strength of her situation. I don't know what will make a difference to her, whether her life is better here, whether the life of her baby will be better here. I don't know what the answer is, but it is something that I have been thinking about since meeting her. As a new graduate I am so fixated on my clinical skills, fretting over fundal heights and timing of antepartum testing. I think with repetition these skills will become something I can count on. The part that I have to look further into myself for is how to be “with woman” in the midwifery sense; how to find universal common ground and be able to connect with women and support them in whatever situation they are in, regardless of where I am in my life and career. ■

from sprinkling mercury on the floor of a home or car, burning it in a candle, and mixing it with perfume. Because mercury vapor is heavy and tends to form layers close to the ground, infants and children, whose breathing zones are closest to the floor, are at highest risk. Ingested mercury passes through the gut unabsorbed. For centuries it has been used to treat constipation (Clarkson et al. 2003).

In Latin American and Central American countries, mercury is dispensed in small centers for psychic readings and in fortune telling stores, usually not a medical establishment. The entire process is very ritualistic. Clients are often requested to bathe and then have eggs smeared over their bodies. Of the various indigenous herbs and heavy metals used for treatment, mercury is popular; it is often consumed in a mixture of port wine, eggs, nutmeg, and milk. In many South American countries, mercury is often administered by intravenous injection to help athletes and boxers build muscle mass, a practice based on superstition (Smith et al. 1997).

The oral route of metallic mercury use does not cause poisoning symptoms, but its use in infants and children could cause subclinical developmental problems. Concentrations in blood and urine after ingestion of mercury remain low because very little is absorbed. However, mercury injected subcutaneously causes sterile, inflammatory, and necrotic reactions resulting in abscesses and granulomas. Environmental and occupational exposure to mercury can be determined by measuring toenail mercury levels (Garland et al. 1993; MacIntosh et al. 1997; Yoshizawa et al. 2002).

Intra-arterial injection can cause digital ischemia and/or gangrene secondary to embolization. One case of cardiac granuloma secondary to intra-arterial injection has been reported (Kedziora and Duflo 1995). When mercury is injected intravenously, it goes mainly to the lungs and can cross over to systemic circulation (Givica-Perez et al. 2001).

Cases of foreign body granuloma on the thumbs or hands have been reported after rubbing mercurial ointments (Bradberry et al. 1996). In cases of subcutaneous metallic mercury injection, patients usually present weeks to months later with an inflammatory mass at the site of injection. The diagnosis may be apparent on X-ray examination or it may be obvious at the time of surgery (Bradberry et al. 1996).

Patients may be seen remote from the mercury exposure with swelling at the injection site. Pathologic findings of granuloma, fibrosis, and histiocytes suggest a local foreign-body-type reaction to metallic mercury. Abnormal serum levels suggest that there is some lymphatic and vascular migration following subcutaneous injection (Soo et al. 2003).

Mercury can be detected by imaging X rays or ultrasound. In the case of a 32-year-old nurse who had cut the palm of her right hand

with a broken thermometer 30 days earlier, sonography showed multiple small echogenic dots surrounded by a hypoechoic halo, suggesting the presence of small crystal fragments or droplets of mercury (Romero et al. 2004). No reverberation, acoustic shadowing, or flow on color or power Doppler imaging was noted. Mercury is hyperechoic on sonograms despite being liquid at room temperature. It is a safe, inexpensive, portable, and readily available imaging modality (Romero et al. 2004). Two deaths have been reported following subcutaneous injection (Chodorowski et al. 1997); cause of death was renal failure in one patient and empyema in the lung of the second patient.

There is no ban on the sale of mercury, although the Federal Hazardous Substances Act (1994) mandates that it be sold only with an attached warning label. Current U.S. public advice on disposal of mercury is confusing and inconsistent; 45% of requests for advice from local and state waste management centers

resulted in advice to use regular household collections to dispose thermometers (DiCarlo et al. 2002).

Under a voluntary agreement between the U.S. Environmental Protection Agency (EPA), the American Hospital Association, Hospitals for a Healthy Environment (H2E) was formed. A pledge was made to eliminate mercury, identify pollution prevention opportunities, and reduce waste. As of March 2002, the H2E had as partners 260 hospitals, 36 clinics, 8 nursing homes, and 25 other facilities across the United States (Wendroff A, personal communication). Information on the safe disposal of mercury is available on the U.S. EPA website (U.S. EPA 2004).

With changes in demographic and population ethnic mixes, controlling the sale of mercury and ensuring its proper disposal become more urgent. Serious environmental contamination and long-term consequences could otherwise cause severe consequences in the future. ■

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Immunization Resources Available to You!



MCN's Migrant Immunization Initiative: Partners for a Life Cycle Approach is pleased to offer you the *Adventure of Pepín*. Pepín is the cartoon star of videos and comics developed by Texas Tech University Health Science Center



at El Paso. Pepín is now being used to educate migrant parents about vaccinations for their children. Pepín videos and comic books provide pictorial equivalents of vaccine information statements in an easy to understand format in Spanish and English.

Available free. Clinics must complete an evaluation of the Pepín materials they receive.

Please check DVD/Video Content		Please Check Preference: DVD or Video			
<input type="checkbox"/>	Diphtheria/Tetanus/Pertussis (DTaP)	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video
<input type="checkbox"/>	Measles/Mumps/Rubella (MMR)	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video
<input type="checkbox"/>	Polio	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video
<input type="checkbox"/>	Hepatitis A	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video
<input type="checkbox"/>	Hepatitis B	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video
<input type="checkbox"/>	Varicella (Chickenpox)	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video
<input type="checkbox"/>	Pneumococcal Conjugate	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video
<input type="checkbox"/>	Hemophilus Influenza	<input type="checkbox"/>	DVD	<input type="checkbox"/>	Video

No. of Comic Books	Comic Book Content
_____	Diphtheria/Tetanus/Pertussis (DTaP)
_____	Measles/Mumps/Rubella (MMR)
_____	Hepatitis B
_____	Varicella (Chickenpox)

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CITY

STATE

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PHONE

E-MAIL

All resources are free with a nominal shipping and handling fee. You may order 1 of each video or DVD and up to 100 of each comic book. Supplies are limited and resources will be distributed on a first come first serve basis by April 15, 2005.

Mail or fax your order form by February 4, 2005 to:

MCN

Attn: Immunization Project

Migrant Clinicians Network, P.O. Box 164285, Austin, TX 78716, Fax: 512.327.0719

Please note that these resources supplement the vaccination information statements and providers are still required to distribute the statements. Statements in Spanish are available at www.immunize.org

If you have any questions or need additional information please call MCN at 512.327.2017.



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Newsflashes...

Center for Disease Prevention and Control Warns About Rare STD Spreading Among MSM in Europe

CDC reports in the October 29 issue of MMWR that a rare sexually transmitted disease, Lymphogranuloma venereum (LGV), has been spreading among men who have unprotected sex with men (MSM) in the Netherlands and other European countries and is warning doctors that it could appear among MSM in the United States. Since most doctors in the U.S. have never seen a case of LGV, CDC officials worry that physicians might incorrectly diagnose the symptoms and fail to provide necessary treatment.

LGV has been diagnosed in about 90 MSM in the Netherlands, and other cases have been reported in Belgium, France, Sweden and Britain. The infection is caused by a strain of the bacteria that causes chlamydia and can be cured with antibiotics. LGV is associated with genital ulcers and flu-like symptoms and can cause severe gastrointestinal distress. Health professionals also are concerned because inflammation and ulceration sometimes caused by LGV could increase the risk of transmitting or contracting HIV and other bloodborne infections. LGV is usually seen in developing countries among heterosexuals.

To view the MMWR report go to: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5342a2.htm>.

Pediatricians Need More Training on Environmental Health

Doctors and nurses need more environmental health training to prevent, recognize, and treat diseases caused by environmental exposures, according to a new study funded by the National Institute of Environmental Health Sciences.

A group of experts made up of physicians, nurses, and educators issued recommendations to incorporate environmental health into pediatric medical and nursing education. The expert group studied the medical and nursing education systems from undergraduate education through continuing education courses. The experts identified places in the educational systems, such as licensing exams and fieldwork for nurses, where environmental health could be incorporated. The group also recommended that government organizations should focus on advancing children's environmental health issues.

The study reviewed ongoing evaluations of medical and nursing training programs. Previous studies have shown that pediatric residency and undergraduate medical and nursing education programs do not routinely include comprehensive pediatric environmental health training in their curricula. Few pediatricians are trained to ask their patients questions on environmental exposures or give advice on environmental poisons, although most see patients with health issues related to the

environment, and the majority of parents have expressed worry about their children's exposure to environmental poisons.

For more information about available environmental health resources go to MCN's website www.migrantclinician.org/excellence/environmental or contact MCN's Environmental Health Expert, Amy Liebman at 410-680-9850 or aliebman@migrantclinician.org. ■

calendar

Western Migrant Stream Forum

January 28-30, 2005
San Diego, CA
Northwest Regional Primary Care Assoc.
206-783-3004

2005 MAFO National Farmworker Conference

March 13-7, 2005
Garden Grove, CA Hyatt Regency
Contact: Lalo Zavala 320-251-1711

National Farmworker Health Conference

May 12-14, 2005
San Juan, Puerto Rico
National Association of Community Health Centers
301-347-0400
www.nachc.com