



STATE OF TENNESSEE
DEPARTMENT OF HEALTH
CORDELL HULL BUILDING
425 5TH AVENUE NORTH
NASHVILLE, TENNESSEE 37247

February 25, 2009

Ms. Laura Connor, Director
Roane County Health Department
1362 N Gateway Ave
Rockwood, TN 37854-4108

Re: Tennessee Department of Health Community Health Survey in Response to the TVA Coal Ash Release, January 2009

Dear Ms. Connor,

As you are aware, on December 22, 2008, approximately 1.1 billion gallons of coal ash sludge was released from the Kingston Fossil Plant, a Tennessee Valley Authority (TVA) facility in Roane County, Tennessee. Environmental and health concerns associated with the spill prompted the Tennessee Department of Health (TDH) to strengthen existing hospital-based surveillance activities to detect acute health issues potentially related to the release and initiate steps for a community-based assessment. On January 8, 2009, TDH, along with the local and regional health departments and with the assistance of the Centers for Disease Control and Prevention (CDC), launched the field phase of the community health survey, interviewing community members residing in the area of the ash release. Although environmental test results had been reassuring from a human health perspective, we wished to determine whether significant or unexpected exposures or adverse health effects were being experienced by persons in the community.

Methods

We identified households within a 1.5 mile radius of the coal ash spill. Each accessible house within this geographic area was approached by an assessment team and invited to participate in the voluntary survey. Using a standardized questionnaire, participating adult residents and parents of child residents were interviewed. Health information and TDH contact information sheets inviting assessment participation were left at each unoccupied house. Follow-up visits and phone interviews were scheduled to accommodate participant needs.

Preliminary Results

From January 8-13, 2009, assessment teams of 2-3 public health staff visited 324 residences within a 1.5 mile radius of the spill. Staff interviewed 368 participants representing 170 households. Among participants 24% were aged <18 years, 59%

aged 18-64 years, and 17% aged ≥ 65 years. We asked several questions to determine if persons may have been exposed to the coal ash. Nearly half of respondents (47%) reported fly ash present in their yards, although only 4% reported involvement with fly ash cleanup. A third of participants (33%) reported that their shoes or clothing had been in contact with the fly ash and a smaller number (13%) reported direct skin contact. Consumption of fish caught in the river since the spill was reported by 1% of participants. Although most respondents (83%) were aware of public health messages to avoid exposure, only 66% of persons who reported getting coal ash on their hands said they washed them afterwards. Other behaviors noted in the survey included an increase in consumption of bottled water (9% of respondents before the spill to 25% after the spill). In addition, those who reported spending no time outdoors increased more than threefold (5 to 18%). We asked some questions about pre-existing medical problems. Among participants, 12% had asthma, 6% had chronic obstructive pulmonary disease, and 5% had a history of myocardial infarction (heart attack). Current (18%) and past (27%) smoking were also noted. Most respondents (62%) reported no change in health status after the spill, 33% reported worsening of 1 or more symptoms, and 5% said they "didn't know". Among the most common symptoms reported by residents were worsening of cough (27%), headache (25%), wheezing (14%), and shortness of breath (14%). Symptoms of stress and anxiety were the most commonly reported complaints (52%) among the participants.

Conclusions

Most people living close to the spill did not report any change in health status at the time of this survey. However, despite reassuring environmental test results, we noted some behavior changes that may suggest persons are concerned about air and water. About a third of persons reported that they perceived worsening of upper respiratory symptoms. One limitation of this survey is the inability to associate these symptoms with any particular exposure, such as poor indoor or outdoor air quality or circulating seasonal cold viruses. Mental health issues indicating stress and anxiety were notable and reported by about half of persons interviewed.

Although incidental contact with coal ash or breathing air with small amounts of coal ash particles are considered to be low risk, Tennessee Department of Health continues to recommend avoiding or limiting exposure to coal ash.

Sincerely,



David Kirschke, MD
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