

# Zamfara Lead Poisoning: Forestalling Recontamination

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THE affected villages are seven : two from Bukkuyum Local Government Area, (Yargalma, Turgarguru) and five from Anka LGA (Abare, Dareta, Sunke, Tungardagi and Duza) of Zamfara State.

The processing of lead-laden gold ore had led to lead dust being left around residential compounds, as well as accumulation of tailings. In the process, hundreds of children (under five years) ingested lead and died of convulsion and diarrhoea. One of the victims, three-month-old Hawawu Abubakar, was lying critically ill at Anka General Hospital.

Her mother died immediately after her birth. Although the cause of death of Hawawu's mother cannot be ascertained, the Medecins Sans Frontieres (MSF) officials are concerned over her health.

According to the Project Coordinator, MSF Holland Heavy Metal Lead Poisoning in Zamfara State, psychologist Daisu Plana, the MSF has been in Zamfara since June 2010 to help in the treatment of the children affected by lead poisoning. In 2010, mortality rate was 43 percent, but now, she said, it has dropped to one percent. "The children are still on treatment. Our chelation therapy is very effective, a standard treatment used successfully to treat heavy metal poisoning for more than 50 years. Chelation therapy is a relatively safe treatment, with a low occurrence of side effects. But it is really hard to say if lead can be eradicated in the community, if people continue with unsafe mining. Safe mining is the only way to stop lead poisoning in the community," she said.

She described the Zamfara State incident as the largest and most expensive so far in the world —and the first lead project for MSF to handle. Plana said that the MSF has the mandate of treating children under five, because they are most susceptible to lead poisoning as their organs are still developing and vulnerable to lasting damage. Children also absorb about 40-50 per cent of ingested lead compared to 10 per cent in adults. As an emergency organization, MSF, she said, responds to such situation with patients that are more endangered given priority. "Children are vulnerable to psychological and neurological damage. We have more than 10 children rendered blind by lead poisoning," Plana disclosed.

She insisted that the MSF is working with the Nigerian government on how to educate the people on safe mining. "They don't need to bring their tools to their houses. They need a place where they can keep the

ore instead of bringing it to their houses and boreholes to get clean water to clean themselves before they enter their villages. Those are not yet available in the villages,” she regretted.

The coordinator posited that since remediation has been done, there is no need to relocate the villagers. “As long as they will not expose children any more to unsafe mining processes. Otherwise, they risk once again ingesting lead and developing lead poisoning. If the home environment has not yet been decontaminated, families are encouraged to send children to stay with relatives in lead-free compounds,” she said.

According to her, the Zamfara lead poisoning is the most expensive project that the MSF is doing at the moment. Although she could not say exactly how much has been spent. The MSF has 130 national staff (on contract) and ten international staff (including doctors and nurses) working with her on the lead poisoning project.

Plana said that her organisation is partnering with the World Health Organisation (WHO), Terregraphics/Blacksmith Institute (from the US) and the Nigerian government in the lead poisoning response. MSF, she said, is still sourcing for funds to support the project.

She listed the challenges facing MSF to include power. She added that MSF is coping with or without power supply from Power Holding Company of Nigeria (PHCN). “The major challenge we have now is having access to the villages during the raining season. The roads are bad and we have to cross rivers to get to our clinics in the villages,” she said.

The way out of the lead poisoning in the state, she said, lay with both the government and the communities. The people should not embark on unsafe mining and government must provide facilities and programmes to ensure that people who engage in artisanal gold mining can safely mine and process ore, and education on the health consequences of mining. “The Nigerian government, supported by international actors, must assume responsibility for the long-term care of lead poisoning survivors,” she urged.

Dr. Jean Tiendrebeo, Medical Team Leader of the MSF, is also handling a lead poisoning project for the first time. Tiendrebeo revealed that some of the affected children are still on treatment, due to the dynamics of lead in the human body. “You know that lead is stored in bones, tissues, that is why it is taking so long to treat the patients. We also discovered high levels of lead in some children who were not screened earlier on. Those that were screened, some still have high blood levels of lead in their blood,” he said.

The latter situation, he said, may be due to treatment compliance problem or that of recontamination. “The treatment we are giving has to do with lead in the blood. So the lead in the bones is getting out gradually from the bodies of the survivors,” he said.

The level of compliance to treatment, he stressed, is complicated because most parents think that their kids are healthy when they see them running around, whereas clinically they are not. With such deception, the parents are not really urging the children to take their drugs. “And already we have a big problem in term of treatment compliance,” he said.

The medical doctor said he could not really predict when the treatment for the lead poisoning victims would be over as it depends on how quick the lead gets out of the blood of the children. However, he pointed out that when the lead in the children's blood drop to safe levels, further treatment is not compulsory. "They will excrete it out of their organs. If the lead is more than 70 microgramme in the survivors' blood, it is a big problem," he said.

He regretted that some patients had more than 100 per cent lead levels in their blood.

For those people who are not on treatment, he said, they need 20 to 30 years to excrete lead out of their system (through urine and stool). "If you are on treatment, it means that lead is coming out of your blood very fast; we cannot say exactly how long it will take for lead to come out of their organs," he said.

He regretted that one of the unscreened children from the affected communities died of lead poisoning in Anka General Hospital this year. The child died of convulsion and diarrhoea within 24 hours of admission into the hospital.

He listed the symptoms of lead on children to include blindness, hearing impairment. Some of the damage he said, is irreversible. "Hearing impairment for example, is irreversible. Those children that cannot talk in places like Yalgama are deaf for life. You have some of them very active children, just teasing everybody, some with seizure. Lead can retard the growth of the children," he said.

Adults are not totally immune to lead poisoning. Frequent headache, abdominal pains, kidney failure are among their symptoms, he said

The remediation of the villages is being handled by Terragraphics Environmental Engineering Inc Idaho, USA. One of their members of staff, Simba Trim, an Environmental Scientist said their mission is to help a 'neighbour whose house is on fire to put out the fire'.

The removal of the contaminated soil to quarantine it somewhere outside the village, according to him, is a less expensive (and effective) method against lead poisoning. Other methods of remediation, like the use of chemical, he said, are too expensive.

Mohammed Bello Seriki Dutsi (Community Head) of Dareta, disclosed that things were getting better and there were no more deaths from lead poisoning in his village. "My people are still receiving medication and they are getting better. There is no death recorded this year. The children in the village go every day to receive treatment from MSF in their clinic in the village. About 500 children still go there," he said

Alhaji Umaru Hamisu, Permanent Secretary, Zamfara State Ministry of Environment, regretted the lead poisoning in the state.

However, he maintained that to outlaw mining activities by the villagers in the state is not part of the solution to the lead poisoning, as mining is the mainstay of the economy of the people in the affected communities. "They are used to the occupation. That is where they get their daily bread. The challenges confronting the villagers are good roads, access to pipe-borne water and good schools," he said.

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