

Independent: Test all wells for arsenic, says health expert
By Jeremy Laurance, Health Editor
Published: 13 June 2007

Drinking water poisoned with arsenic may be causing cancer on the same scale as passive smoking, affecting millions of people worldwide, a public health specialist has warned.

Every private well or borehole in the world used for drinking water should be tested for the presence of the metal, Professor Allan Smith, an epidemiologist at the University of California, Berkeley, said. Research in northern Chile, one of the most heavily contaminated areas, has shown that between 5 and 10 per cent of the population died from arsenic poisoning, most from lung and bladder cancer.

"That is the highest death rate caused by something in the environment in the world," said Professor Smith. "The problem with arsenic is that it is colourless and odourless, unlike other causes of lung cancer such as cigarette smoke and diesel fumes. It is very hard to convince people that water that is crystal clear and tastes fine could kill them."

Northern Chile gets its water from naturally contaminated rivers originating in the Andes. But many other areas of the world, including parts of the US, have levels of arsenic in drinking water well in excess of the World Health Organisation maximum of 10 micrograms per litre.

Professor Smith, who has studied the effects of the contamination in northern Chile for 15 years, said its impact on the human population was "without precedent".

The latest study, published yesterday in the Journal of the National Cancer Institute, found that lung and bladder cancer rates were almost three times higher than in other parts of Chile more than 20 years after the arsenic levels began dropping. "The results show that the risks of concentrated arsenic exposure are extraordinarily high and that they last a very long time, both after initial exposure and after the exposure ends," Professor Smith said.

At its peak, from 1958 to 1970, the level of arsenic in Antofagasta in north Chile rose to 870 micrograms per litre, 90 times the safe level set by the WHO. The first large arsenic removal plant in the world was installed in 1971 and the level is now down to around 10 micrograms.

Professor Smith said many other parts of the world were contaminated with arsenic, a known carcinogen, and even at low levels down to 50 micrograms per litre it was likely to have an adverse effect.

Bangladesh, West Bengal, Pakistan, Iran, Nepal, Cambodia and Vietnam were among the worst affected along with parts of the United States including Nevada, Utah and California. In Nevada, private wells had been found with levels up to 1,000 micrograms per litre, he said.

"You can have wells 100 yards apart and one will be contaminated while the other is not. That is the reason for testing every well," he said.

Professor Smith said the risk from drinking water at the very high levels of contamination in northern Chile was similar to that from smoking, accounting for one in 10 cancer deaths.

"At lower levels of 50 micrograms per litre, the risk may be on a par with that from passive smoking, which accounts for one in 100 cancers. But we haven't proved that and we may not be able to because it is hard to find people who have only ever drunk water with a 50 microgram level of arsenic for 30 to 40 years"

A new study is beginning in Iquique in north Chile, where the arsenic level of 60 micrograms of arsenic has been steady for decades.