

Aamjiwnaang First Nations concerned about chemical exposure

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CBC News

The people of the Aamjiwnaang First Nation are concerned that exposure to a notorious cluster of chemical plants is severely influencing birth rates. A review of birth records found there aren't very many boys being born in the southwestern Ontario community, and the number is dropping.

According to a study published in the American journal Environmental Health Perspectives, only about a third of babies born on the reserve between 1999 and 2003 were male. Going back to include another five years, only 41 per cent of babies born in the decade were boys. The ratio is normally something closer to 50:50.

Residents of the 850-member Chemical Valley native group started asking questions in 2003 when they realized there were three all-girl softball teams and only one for boys.

"Is it what we're breathing in on a daily basis? Is it where we played as kids? Is it something our parents did? Is it these small exposures or is it because we've been living here our whole lives?" asked Ada Lockridge, a member of the band's environmental committee.

The Sarnia area is home to Canada's largest cluster of chemical, allied manufacturing and research and development facilities. Out of the 10 largest chemical companies in the world, eight have operations in Ontario.

Chemical might be feminizing babies in utero

Posted Sep 2, 2005, 9:18 AM ET by Jennifer Creer
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This disturbing story shows that babies born in the community of Aamjiwnaang in Ontario, Canada, which is found next to the Sarnia-Lambton Chemical Valley complex have been girls by more than half since about 1993. No specific chemical has yet been found to be responsible for the birth patterns. However, studies have also shown that women exposed to phthalates (a chemical found in many common household items) during their pregnancies give birth to boys with smaller penises than the general population of boys born. Therefore, scientists suspect a strong link between the proximity of pregnant women to the chemical complex and the disappearance of baby boys in the community. People have not

yet had their blood tested for contaminants, but that seems to be a logical next step, according to Constanze Mackenzie of the University of Ottawa, who sites chemicals as being the number one suspect for the phenomenon.

Where did all the baby boys go?

- 05 September 2005
- NewScientist.com news service
- David Shiga

EVIDENCE continues to pile up that hormone-disrupting chemicals can gender-bend human babies.

Earlier this year it was reported that the sons of women exposed to phthalates during pregnancy tend to have smaller penises (*New Scientist*, 4 June, p 11). This was the first direct evidence that such chemicals can feminise fetuses in the womb.

Now nearly twice as many girls as boys are being born in the Aamjiwnaang community, who live next door to the Sarnia-Lambton Chemical Valley complex in Ontario, Canada. And though no chemical has yet been shown to be to blame, high levels of hexachlorobenzene (HCB), which also has hormone-disrupting properties, have been found in the local soil, and phthalates are being emitted from part of the complex.

The proportion of male births began falling around 1993, says Constanze Mackenzie of the University of Ottawa. And the ratio has become more skewed since then. Between 1999 and 2003, the community saw just 46 boys born compared to 86 girls (*Environmental Health Perspectives*, DOI: 10.1289/ehp.8479).

People living in the community have not yet been tested for contaminants in their blood, but chemicals are "at the top of our list" of possible causes, she says.

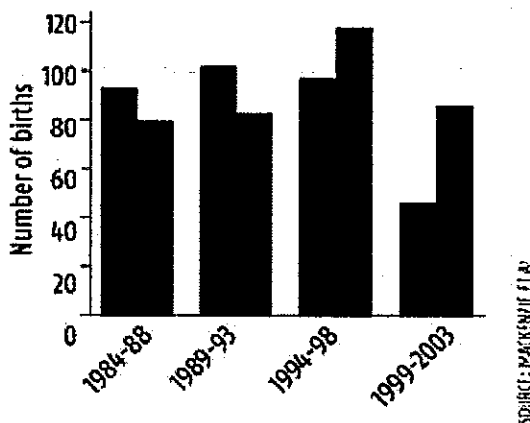
Journal reference: *Environmental Health Perspectives* (DOI: 10.1289/ehp.8479)

Industry blamed for massive dive in male birth rate (published on 22-August-2005)

SKewed SEX RATIO

The ratio of boys to girls born in the Ontario Aamjiwnaang community is falling

● Boys ● Girls



Chippewas living in the shadow of industrial plants in Ontario have reported a worrying drop in the number of male births within the community.

An in depth scientific investigation was carried out confirming the fears of members of the Aamjiwnaang First Nation community near Sarnia, Ontario.

Globally slightly more male children are born than female, the balance is, as might be expected, roughly half and half with the ratio usually somewhere around 51% to 49%.

While regional variations do exist around the world, Canada follows the trend, with the national male birth rate at 51.2%.

The Chippewas community near Sarnia, however, shows a startling divergence from the national average, with only one in three babies born male in recent years.

Research into the discrepancy was led by Constanze Mackenzie from the University of Ottawa, who concluded that the most likely explanation for the plummeting rate of baby boy births was the proximity of the settlement to a host of heavy industry plants.

The report was published in *Environmental Health* magazine.

"The trend in the proportion of male live births of the Aamjiwnaang First Nation has been declining continuously from the early 1990's to 2003, from an apparently stable sex ratio prior to this time," the researchers wrote in their study.

"This community is situated immediately adjacent to several large petrochemical, polymer, and chemical industrial plants.

"Although there are several potential factors that could be contributing to the observed decrease in sex ratio of the Aamjiwnaang First Nation, the close proximity of this community to a large aggregation of industries, and potential exposures to compounds that may influence sex ratios warrants further assessment into the types of chemical exposures for this population."

The effects of endocrine disruptors, or 'gender bender' chemicals, have been well recorded in the animal kingdom, but their direct impact on human development is less understood.

The Sarnia case is likely to shed some light on the matter but the effects of individual substances could be a difficult to unravel, as the population is likely being exposed to a cocktail of chemicals rather than a single compound.

Meanwhile, the problem persists for the Chippewas and appears to be getting worse.

20 years ago, the gender balance seemed normal in Sarnia.

Over the past 15 years, the imbalance has grown and is now at its greatest level since concerns were raised, with just 34.8% of births resulting in male children between 1999 and 2003.

A community health survey is currently underway to gather more information about the health of the Aamjiwnaang community and to provide additional information about the factors that could be contributing to the problem. By Sam Bond