

Pollutants cause huge rise in brain diseases

Scientists alarmed as number of cases triples in 20 years

Juliette Jowit, environment editor
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The numbers of sufferers of brain diseases, including Alzheimer's, Parkinson's and motor neurone disease, have soared across the West in less than 20 years, scientists have discovered.

The alarming rise, which includes figures showing rates of dementia have trebled in men, has been linked to rises in levels of pesticides, industrial effluents, domestic waste, car exhausts and other pollutants, says a report in the journal Public Health.

In the late 1970s, there were around 3,000 deaths a year from these conditions in England and Wales. By the late 1990s, there were 10,000.

'This has really scared me,' said Professor Colin Pritchard of Bournemouth University, one of the report's authors. 'These are nasty diseases: people are getting more of them and they are starting earlier. We have to look at the environment and ask ourselves what we are doing.'

The report, which Pritchard wrote with colleagues at Southampton University, covered the incidence of brain diseases in the UK, US, Japan, Australia, Canada, France, Germany, Italy, Netherlands and Spain in 1979-1997. The researchers then compared death rates for the first three years of the study period with the last three, and discovered that dementias - mainly Alzheimer's, but including other forms of senility - more than trebled for men and rose nearly 90 per cent among women in England and Wales. All the other countries were also affected.

For other ailments, such as Parkinson's and motor neurone disease, the group found there had been a rise of about 50 per cent in cases for both men and women in every country except Japan. The increases in neurological deaths mirror rises in cancer rates in the West.

The team stresses that its figures take account of the fact that people are living longer and it has also made allowances for the fact that diagnoses of such ailments have improved. It is comparing death rates, not numbers of cases, it says.

As to the cause of this disturbing rise, Pritchard said genetic causes could be ruled out because any changes to DNA would take hundreds of years to take effect. 'It must be the environment,' he said.

The causes were most likely to be chemicals, from car pollution to pesticides on crops and industrial chemicals used in almost every aspect of modern life, from processed food to packaging, from electrical goods to sofa covers, Pritchard said.

Food is also a major concern because it provides the most obvious explanation for the exclusion of Japan from many of these trends. Only when Japanese people move to the other countries do their disease rates increase.

'There's no one single cause ... and most of the time we have no studies on all the multiple interactions of the combinations on the environment. I can only say there have been these major changes [in deaths]: it is suggested it's multiple pollution.'

Pritchard's paper has been published amid growing fears about the chemical build-up in the environment. A number of studies have pointed to serious problems. TBT is being banned from marine paints after it was blamed

for masculinising female molluscs, causing a dramatic decline in numbers. A US report linked neurological disorders to pesticides. And testing by WWF (formerly the World Wildlife Fund) found non-natural substances such as flame retardants in every person who took part.

WWF has named chemical pollution as one of the two great environmental threats to the world, alongside global warming, and is particularly worried about 'persistent and accumulative' industrial chemicals and endocrine - hormone distorting - substances linked to changes in gender and behaviour among animals and even children.

'We've started seeing changes in fertility rates, the immune system, neurological changes [and] impacts on behaviour,' said Matthew Wilkinson, the charity's toxics programme leader.

Pesticides and pharmaceutical chemicals must now undergo rigorous testing before they can be used. But there are an estimated 80,000 industrial chemicals and the 'vast majority' do not need safety regulation or testing, said Wilkinson.

However, the chemical industry strongly rejects what it claims are often unproven fears. Just because chemicals are present does not mean they are at dangerous levels.

But critics are not reassured. 'It is true that just because we find a chemical does not mean it is dangerous,' said Wilkinson. 'But it is equally true that for the vast majority of chemicals we have so little safety data that the regulatory authorities have no idea what a safe level is.'

The Royal Society of Chemistry also said quantities of pesticides were declining. 'Improvements in analytical chemistry mean that lower and lower levels of pesticides can be detected,' said Brian Emsley, the society's spokesman. '[But] because you can detect something doesn't necessarily mean it is dangerous.'

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