There are at least 800,000 people currently living with dementia in the UK. The symptoms include memory loss, confusion and problems with speech and understanding. There is currently no cure. Dementia is caused by damage to the brain. This can be the result of a medical condition, such as Alzheimer’s disease (see Biological Sciences Review, Vol. 22, No. 4, pp. 34–37), or of an interruption to the blood supply to the brain. In Alzheimer’s disease clumps of protein — ‘plaques’ and ‘tangles’ — progressively form in the brain. These clumps are thought to be responsible for the death of brain cells, and they can also affect neurotransmitters — the chemicals that carry messages between brain cells.

Vascular dementia

All our organs, especially our brains, need a constant supply of oxygen and nutrients from the blood to work properly. If the supply of blood is interrupted, cells begin to die, resulting in damage to the organ, e.g. the brain. The blood vessels may burst (haemorrhage) or become blocked by a clot (leading to a stroke, see Biological Sciences Review, Vol. 25, No. 1, pp. 2–5) — usually as a consequence of high blood pressure. Or the blood vessels inside the brain can narrow and harden when fatty deposits build up on the blood vessel walls, restricting the flow of blood. This is called atherosclerosis (see Biological Sciences Review, Vol. 26, No. 2, pp. 27–31), and is most common in people who have high blood pressure or type 1 diabetes, and those who smoke.

Far fewer people live with, or go on to die from, vascular dementia than other types (see Figure 1), but

Can eating a curry help beat dementia?

Liz Sheffield explains how an ingredient found in turmeric may hold the key to repairing the brains of people living with dementia

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Far fewer people live with, or go on to die from, vascular dementia than other types (see Figure 1), but
the symptoms are usually more severe, with sudden changes rather than progressive worsening. The fear of developing the condition and of dying with dementia is well founded — one in three people currently over the age of 65 are likely to die with dementia in the UK if no treatment or cure can be found.

**Turmeric**

Turmeric is a spice commonly used as a flavouring agent in curries. It is obtained from the underground stems of a beautiful Indian flowering plant in the ginger family. Research scientists in Germany recently carried out experiments with turmerone — one of the chemicals found in turmeric — on both rat cells in culture and adult rats. The cells in culture were neural stem cells — these are cells that are capable of developing into neurons. At certain concentrations, turmerone was found to increase the proliferation of the stem cells by up to 80%, and increased the speed with which they matured into neurons. The scientists found the same promising effects on neural stem cells in adult rats when they injected turmerone into their brains. If turmerone has the same effect on humans, it could one day become part of a therapy to encourage the stem cells in the brains of people living with dementia to replace the neurons they have lost.

**What can you do?**

1. Consider becoming a Dementia Friend. I became a Dementia Friend after I heard an inspirational talk from a Dementia Friends Champion. There is no expectation that you will raise funds, or do anything except understand a bit more about dementia, and the little ways you may be able to help people living with the condition. See [www.dementiafriends.org.uk](http://www.dementiafriends.org.uk)

2. Find out what the National Health Service recommends to people who are diagnosed with dementia: [http://tinyurl.com/pzuuyau](http://tinyurl.com/pzuuyau)

3. Find out what links the consumption of flying foxes, a cone-bearing tree and dementia. ‘Bats on the brain’: [http://tinyurl.com/n5xo85p](http://tinyurl.com/n5xo85p)

4. Find out what has to happen before it can be prescribed to people if turmerone gets developed into a medicine: [http://tinyurl.com/llezy96](http://tinyurl.com/llezy96)

**Further reading**

Daily Mail article ‘Eating a curry “can help beat dementia”’: [http://tinyurl.com/n5furg6](http://tinyurl.com/n5furg6)

The research paper that reported the experimental results: [http://stemcellres.com/content/5/4/100](http://stemcellres.com/content/5/4/100)

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*Figure 1 Deaths from dementia in people aged 85 years and above, 2002–2012, in Norway*