

2016-03-14 Focus

WHAT EVERYBODY WORRIES ABOUT

Around 20 years ago I attended a lecture at which an earnest young doctor told us that Alzheimer's was linked to the cold sore (or herpes simplex) virus. It was not the lecturer, however, who was the centre of attention ... but me! Was it that the audience marvelled at how somebody in a blazer, shorts and school cap could be lapping up such an erudite concept? Or was it simply that I was 47 at the time? I digress.

A 2011 survey conducted by Alzheimer's Research UK found that 31% of people were more afraid of dementia than of cancer or death. Moreover, more than half of adults aged 30 to 50 were afraid their parents would develop dementia compared to 42% who worried that they would develop cancer and a third who feared they would have a heart attack.

The story has kept on reappearing. In 2007, the NHS Health Choices website told us that the Telegraph reported that a study had found that "exposing brain cells to the herpes simplex virus (HSV-1) that causes cold sores, results in large quantities of a protein to build up in the brain – a state that is commonly found in Alzheimer's sufferers. This effect is especially apparent in people who have a type of gene variant that is 'carried by 30% of the population and half of all Alzheimer's patients'."

New Scientist said that "80% of elderly people carry HSV-1, so any exacerbating effect could be having a huge impact." The BBC reported that "Scientists believe the discovery could pave the way for a vaccine that may help prevent the brain disorder." Health Choices concluded: "While these studies indicate an avenue for further research, at present they do not provide convincing evidence of a link between Alzheimer's and the HSV-1 virus ... Alzheimer's disease and its possible causes are still poorly understood. At this stage people with the extremely common, recurrent infection of cold sores, should not think that they are at an increased risk of developing Alzheimer's."

In 2008, NHS Choices (Behind the Headlines) carried the following story: "The Daily Mail reported that the cold sore virus "may be one of the main causes of Alzheimer's disease". The newspaper said researchers have found that the herpes simplex virus 1 (HSV1) could be present in up to 60% of Alzheimer's cases. There is a suggestion that existing cold sore drugs could be used to treat the condition."

It concluded that: "The news coverage could be interpreted to mean the research found that people with cold sores will develop Alzheimer's or that infection with the cold sore virus alone could cause Alzheimer's. However, this study was not set up to investigate these questions. It found an association between HSV1 in the brain and brain plaques in Alzheimer's brains and normal elderly brains. It also found more viral DNA in the plaques from Alzheimer's brains than plaques from normal brains. As the researchers state, "association does not prove causality". They have previously suggested that the virus would most likely work in combination with genetic factors to be causal for Alzheimer's disease."

In 2011 a NHS Choices special report listed the slim evidence for and the mass of evidence against many of the medicines/products claimed to protect against Alzheimer's.

Now Sarah Knapton, the Telegraph's Science Editor, warns (again) that Alzheimer's disease could be caused by the herpes virus. We're told that experts have opined that: "Drugs trials have failed and it's time to face up to the fact Alzheimer's is probably caused by viruses and bacteria." She goes on to say that: "The worldwide team of 31 senior scientists and clinicians, which include specialists from Oxford, Cambridge, Edinburgh and Manchester Universities and Imperial College, have written an editorial which suggests that microbes are the major cause of dementia. The herpes virus - the type which causes cold sores - and chlamydia bacteria are named as the major culprits, as well as a type of corkscrew-shaped bacteria called spirochetes."

By the way, syphilis is caused by *treponema pallidum*, which is a spirochete ... and it is responsible in the later stages for brain damage including delusions of grandeur. That's nothing to do with this story, of course - it's just a fascinating digression.

Getting back to the point, SK points out that: "Currently most scientists are trying to find treatments which prevent the build of sticky amyloid plaques and misfolded tau proteins in the brain which prevent neurons from communicating with each other, leading to memory loss and cognitive decline. But in an editorial in the 'Journal of Alzheimer's Disease', it is suggested that it is a viral or bacterial infection which triggers the plaque build-up in the first place. Targeting them specifically with antimicrobial drugs could halt dementia."

There's a quote from Professor Douglas Kell of the University of Manchester's School of Chemistry, who said "We are saying there is incontrovertible evidence that Alzheimer's Disease has a dormant microbial component. We can't keep ignoring all of the evidence."

So could this really open the way for therapy to kill of the viruses and hence protect against dementia ... not to mention the implications for the future treatment of Parkinson's Disease, and other progressive neurological conditions?

Before you get too excited, in the same article, Dr Simon Ridley, Director of Research at Alzheimer's Research UK, sounds a note of caution: "There is growing evidence for the role of the immune system in Alzheimer's and active ongoing research looking at how an inflammatory response might contribute to the disease. There is some evidence to suggest that infections in general could ramp up the immune system and contribute to the progression of Alzheimer's, but there isn't conclusive evidence to suggest that a particular infectious agent or microbe could be directly responsible for causing the disease."

So, nice theory, but there's the usual caveat: "More research is needed."

LOOKING INTO A CRYSTAL BALL

Doesn't make you healthier. A study published by The BMJ is headlined: "Evidence does not support genetic testing to encourage changes in health behaviour" ... in other words, communicating the results of DNA tests to patients has little or no impact on behaviour change, such as stopping smoking or increasing physical activity. Professor Theresa Marteau at the University of Cambridge (whose team reviewed the results of 18 studies) says that these results are timely, given high levels of interest in personalised medicine and increasing use of direct-to-consumer testing for a range of common complex disorders.

So, knowing more about what makes you tick, doesn't necessarily help you to live longer and/or healthier lives. Perhaps there are times when ignorance is bliss.

BAD BEHAVIOUR

Hillaire Belloc wrote a poem about Rebecca "Who Slammed Doors for Fun and Perished Miserably." It begins: "A trick that everyone abhors, In little girls is slamming doors."

This sort of thing has been going on since the dawn of civilization – or, to be more precise, since doors were invented – but is rude and aggressive behaviour on the rise? It's certainly more widely reported. Those working in a variety of walks of life – be it teachers, the police, football referees, healthcare professionals or whatever – expect to encounter this sort of behaviour on an everyday basis.

When it comes to healthcare, is it the case that 'he who shouts the loudest gets the best treatment' – or does it have the opposite effect? Research published online in *BMJ Quality & Safety* appears to show that: "‘Difficult’ patients increase doctors’ misdiagnosis risk regardless of case complexity" ... in other words, "patients regarded as ‘difficult’ increase doctors’ risk of getting a diagnosis wrong, irrespective of the time spent or the complexity of the case."

This is because the mental effort needed to deal with the problematic behaviour distracts from the task at hand – i.e. processing the clinical information correctly – according to a companion study in the journal.

We're told that: "The difficult behaviours portrayed included a demanding patient; an aggressive patient; one who questions the doctor's competence; one who ignores the doctor's advice; one who doesn't expect the doctor to take him seriously; and one who is utterly helpless."

The six conditions they looked at were: pneumonia; a blood clot in the lung (pulmonary embolism); brain inflammation (meningoencephalitis); overactive thyroid (hyperthyroidism); appendicitis; and inflammation of the pancreas caused by excess alcohol (acute alcoholic pancreatitis).

They researchers say that: "The results showed that not unexpectedly, diagnostic accuracy was higher for simpler cases. But the doctors were 42% more likely to misdiagnose a difficult patient than a 'neutral' one in a complex case, and 6% more likely to do so in a simple case." They go on to say: "Diagnostic accuracy was 20% lower for difficult patients, even though the time spent on diagnosis was similar. The doctors also recalled proportionally fewer clinical findings (30% compared with 32.5%) and more behaviours (25% compared with 18%) in these patients. This suggests that the mental energy needed to deal with the problematic behaviour interferes with processing the clinical information correctly."

And they nevertheless conclude that, although the prevailing view is that doctors should be above reacting in this way to difficult patients, "the fact is that difficult patients trigger reactions that may intrude with reasoning, adversely affect judgements, and cause errors."

In a linked editorial, Drs Donald Redelmeier and Edward Etchells of the Centre for Quality Improvement and Patient Safety, University of Toronto, Canada, say the results echo previous analyses, suggesting that unpleasant people tend to have more unfavourable outcomes.

My experience is that the best results are achieved when the doctor and patient know each other and get on well together. Having trust in one another is a major asset. In this situation there's the feeling that "we're both on the same side – we share a common goal."

So, if Hillaire was writing about Rebecca's bad behaviour nowadays he might add a cautionary note about retribution:

"She did it when she saw her doctor,

The blighter very nearly socked her!"

But calming down he gave her pills,

Which worsened all the poor girl's ills."

Dr John