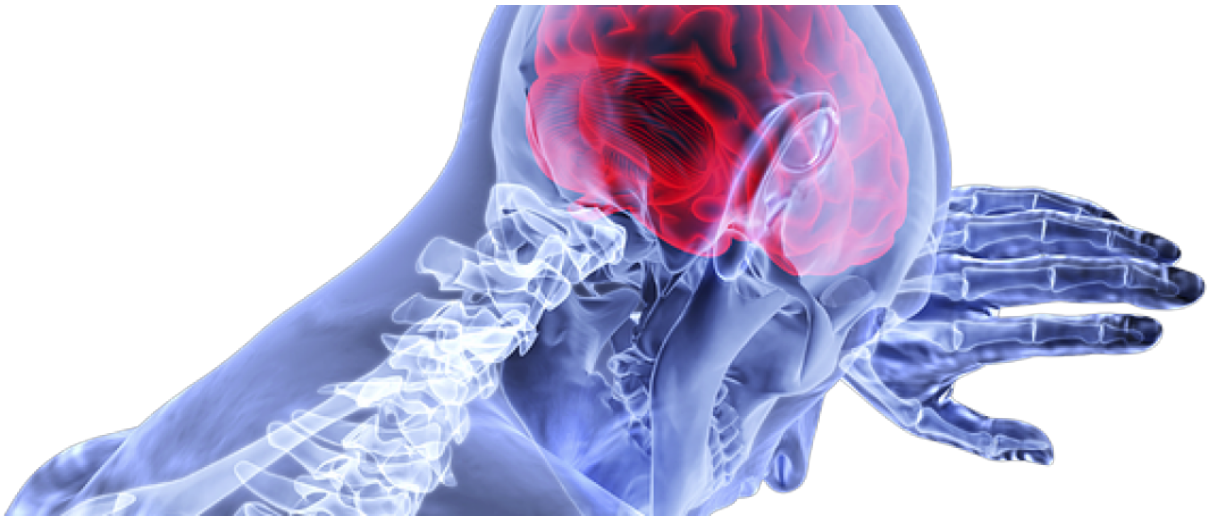
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link to Reader's Digest article [1]

brain [2] mental health [3] elderly [4]



Stress can affect our mental abilities, but can it really cause lasting damage to the brain? Helen Cowan investigates.

The mind-body connection

Healthy mind, healthy body—yoga and mindfulness claim to improve both. In broken-heart syndrome [5] an emotional outburst can enlarge the heart. When it comes to mental stress, the brain triggers elevated levels of the stress hormone cortisol, known to adversely affect body health, causing ulcers and high blood pressure. Cortisol can also damage brain cells [6].

What brain scans show

Stressed brains generally have a reduced volume of the hippocampus [7]—a deep brain structure essential for memory formation. During times of stress, hippocampal cells are thought to be sacrificed for the sake of other brain cells, such as those in the amygdala, essential in the stress/fear response.

It's a chicken and egg situation, however: does the stress cause the brain shrinkage (supporting the stress/Alzheimer's link), or does an already-reduced hippocampal volume instead lead to stress, because of memory impairment making daily living harder?

What people studies show

According to Dr Mark Greenberg of Harvard Medical School, "Although multiple studies have found positive results linking increased life stress to negative cognitive outcomes, there are many caveats to the claim that adverse life events cause cognitive decline".

He quotes one study amongst more than 800 elderly Catholic nuns and priests: initial results suggested that higher levels of stress reduced some aspects of memory and cognition. However, on post-mortem, there was no correlation between life stress and the existence of the characteristic clusters of tangled proteins seen in Alzheimer's brains.

Other studies in the same paper [8] describe apparent links between stress and vascular dementia, but not Alzheimer's, whilst some show no link between stress and brain function.

Stories from real life

Even if the scientists remain divided, stories abound of people with dementia showing real improvement in their mental abilities when stress levels are reduced through art, music, therapeutic touch, conversation or countryside walks.

Brian, living with dementia, speaking after an outdoor guided walk, said "It helps dampen down the symptoms of my dementia….I forget I have dementia."

Music For Life [9] and Singing for the Brain [10] use music to alleviate Alzheimer's. The late neurologist Oliver Sacks describes, in stunning real life stories, how music appears to 'call back the self', awakening moods, memories and thoughts that had seemingly been lost.

The remaining problem

If stress and Alzheimer's are linked in some way, a reduction in stress for someone displaying early signs of Alzheimer's presents a challenge. By its very nature, Alzheimer's is a stressful disease: the realisation that you can no longer perform up to the same expectations – both yours and others- at work, home and in public is stressful.

Rebukes from family members, receiving care from strangers, losing track of time and reality are hard to accept, and a possible admission to a care home where you lose contact with the outside world and the natural world send stress levels soaring.

Having nursed in a care home myself, I have seen that compassion, care and an acknowledgement that the person is still 'alive inside [11]' can reduce stress and recover some of the real person.

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