

Brain malfunction explains dehydration in elderly

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As Australia faces another hot, dry summer, scientists from Melbourne's Howard Florey Institute have warned that elderly people are at risk of becoming dehydrated because their brains underestimate how much water they need to drink to rehydrate.

Dehydration occurs when the body does not have enough water and this can happen rapidly in extreme heat or through exercise. Symptoms of dehydration can include headaches, lethargy and hallucinations. In extreme cases, dehydration may result in death.

Florey researchers Dr Michael Farrell, A/Prof Gary Egan and Prof Derek Denton discovered that a region in the brain called the mid cingulate cortex predicts how much water a person needs, but this region malfunctions in older people.

Dr Farrell said they infused old (age 65 to 74) and young (age 21 to 30) research participants with salty water to make them thirsty and then allowed them to drink as much water as they wanted.

“Although all participants had the same level of thirst, the older people only drank half as much water as the younger subjects,” Dr Farrell said.

“Using PET imaging we found in the older people, the mid cingulate cortex was ‘turned off’ much earlier by drinking small volumes.”

“This discovery helps explain why the elderly can become easily

dehydrated,” he said.

The August 2003 European heatwave claimed around 52,000 lives through dehydration and other causes* – many of these were older people. France suffered the worst losses, with 14,802 people dying from the heatwave.

As climate change continues to be a hot global issue, the health implications for the elderly from rising summer temperatures add to this concern.

Dr Farrell recommended that older people ensure they drink enough water during hot weather.

“Adults should drink about eight glasses of water per day to prevent dehydration, and physically active people may need to drink more,” Dr Farrell said.

Source: Research Australia

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