Research in the News

alzheimer's wa
the dementia care experts

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1. An international research group has identified novel biomarkers that can predict cognitive decline and subsequent increased risk of dementia already 20 years before the disease onset. These biomarkers are proteins, related to immune system dysfunction, blood-brain-barrier dysfunction, vascular pathologies, and central insulin resistance. The researchers looked at stored blood samples from a study conducted 20 years ago and were able to identify 15 proteins that predicted cognitive decline and subsequent clinical dementia and hope to use this information to develop new drug treatments for dementia prevention.
   https://www.sciencedaily.com/releases/2021/08/210803084907.htm

2. Researchers say a tribe of Amazonian people may hold the key to solving the dementia puzzle. The Tsimane tribe of the Bolivian Amazon have similar levels of bodily inflammation to Westerners, but it would appear they do not suffer from mental decay at the same rate; reduction in brain volume in this tribe is up to 70% slower than their western counterparts. The Tsimane people consume a high-fibre diet, including plenty of fish and vegetables, are extremely physically active, and have the lowest prevalence of coronary atherosclerosis known to science with exceptionally healthy hearts in older age. The scientists believe the tribe's pre-industrial subsistence lifestyle of hunting, gathering, fishing and farming directly influences their brain health.
   https://www.studyfinds.org/tsimane-tribe-amazon-healthy-brain-dementia/

3. Scientists have long been aware of the association between cognitively active lifestyles and a reduced risk of Alzheimer's disease (AD), but they are now looking at the importance of cognitive stimulation at specifics stages of life. Examining data from over 1,900 people (average age 79.7 years), researchers for the *Rush Memory and Aging Project* found that people with the highest levels of cognitive activity developed Alzheimer's an average of five years later than those with the lowest levels. The researchers also found that early life cognitive activity, genetic predisposition to AD, social activity, loneliness and levels of education had little or no influence on the incidences of AD in this group. Their study suggests that keeping the brain active with challenging activities in later life may delay the age at which dementia develops, regardless of physical changes in the brain. It is believed that, although cognitive activities do not prevent these changes, our brains are able to draw

on “cognitive reserves” and cope better with the disease pathology. https://www.medicalnewstoday.com/articles/reading-writing-and-playing-games-delay-alzheimers-by-5-years#Clinical-examinations

4. The University of South Australia has released findings from its study into the effect of coffee on our brains. Looking at data from over 17,000 participants (aged between 37 and 73), the researchers found that coffee consumption is associated with reduced brain volume and people who drink more than six cups a day are 53% more likely to develop dementia or stroke. https://www.sciencedaily.com/releases/2021/07/210722120624.htm

5. Scientists in Massachusetts have identified a “signalling” molecule that can help modify inflammation and the immune system to protect against Alzheimer’s disease. Microglia and astrocytes (brain cells normally tasked with cleaning up debris from the brain) initiate neuroinflammation in an attempt to protect the brain. This response causes cell death that is at least 10 times higher than that caused by plaques alone. Researchers have found that a subset of astrocytes release a molecule called interleukin which converts dangerous microglial cells back into helpful, healing cells that no longer destroy neurons. With this new knowledge, researchers can work on how to utilise interleukin to prevent cell death and clear toxic deposits from the pre-Alzheimer’s brain. https://news.harvard.edu/gazette/story/2021/07/signaling-molecule-may-prevent-alzheimers/

6. New research by scientists in Georgia have identified a type of body fat (“beige fat) that may be the key to protecting the brain from dementia. The findings of the study suggested that pear-shaped people, who store fat mainly around the hips and thighs, are less at risk for cardiometabolic problems like heart disease, diabetes and cognitive decline. The researchers noted that beige fat cells, which are typically intermingled with subcutaneous fat cells, mediate subcutaneous fat’s brain protection. They transplanted subcutaneous fat from young and lean mice into the visceral area of genetically modified obese mice. Beige adipocytes formed, and the mice showed signs of improved memory. The team discovered an anti-inflammatory cytokine called IL-4 facilitates communication between beige fat cells and neurons in the hippocampus, the brain's learning and memory centre. https://www.sciencedaily.com/releases/2021/08/210810104656.htm

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