



Media Statement

Scientific breakthrough links gene that controls immune response to depression

Researchers from the Western Australian Centre for Health and Ageing have pinpointed a polymorphic gene that determines the risk of depression in older men.

The findings have been published online in the May issue of the *International Journal of Epidemiology*.

“This marks the first time researchers have shown that men who display a polymorphism on chromosome one have a greater chance of displaying depressive episodes,” says Professor Osvaldo Almeida, Centre Research Director and a Professor at The University of Western Australia. ,.

This study has demonstrated that the risk of depression was greatest amongst people who carry a genetic polymorphism of the C-reactive protein (CRP) gene and is not linked to increased levels of CRP, as previous scientific studies had suggested.

C-reactive protein (CRP) is a protein found in the blood in response to inflammation. The *CRP* gene is located on the first chromosome (1q21-q23).

“Until this point, it was not completely clear what role the CRP gene played in the pathogenesis of depression. Unraveling the mechanisms behind depression is very exciting,” said Professor Almeida.

“The results of our study suggest that these genetic variations lead to a relative deficiency in an individual’s ability to address the physiological changes that occur as a result of acute stressful events. The consequence of such a deficit is that the body takes much longer to be restored to full health, and depression may ensue because of ongoing high circulating levels of chemicals known as cytokines,” explained Professor Almeida.

Researchers from WACHA used the Australian electoral rolls from 1996 and 1998 to sample (randomly) 12,000 men, aged 65 and older, living in Perth, Western Australia. Of these men 3,700 consented to donate a blood sample for genetic

analysis. Other health and lifestyle factors were collected and a Geriatric Depression scale was completed. Of these 4.9% of the sampled men showed clinically significant symptoms of depression. The study involved analysing the genetic makeup of 3,700 men aged 65 years or older.

“These findings allow us to better understand depression risk factors and therefore will equip us (medical professionals) with improved treatment and management methods,” says Professor Osvaldo Almeida.

“We already know that depression is prevalent amongst older Australians with an estimated 8 per cent of older Australian adults suffering from depression at some point, making this a major public health problem.”

Although the results are promising, Professor Almeida said the story was far from over. “The next step is to use these findings to better manage the treatment of the depression and that’s a real challenge. I think a lot of work has to go into that.”

This research was made possible by a National Health and Medical Research Council (NHMRC) grant.

Media Reference:

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The Western Australian Centre for Health & Ageing (WACHA) is dedicated to researching issues associated with ageing in order to extend healthy life. As the Australian population ages, this area of research is becoming increasingly vital. Ageing is a complex issue. WACHA’s researchers are addressing the gap in our knowledge by investigating common health conditions associated with ageing, such as dementia, mild cognitive impairment, falls, depression and frailty. To date, the Centre has achieved notable success in cognitive impairment, mental health and Indigenous ageing. WACHA is one of Australia’s most productive Research Centres.

WACHA is partnered with the WA Institute of Medical Research and the University of Western Australia and is a hospital based research centre. It is well placed to provide a multi disciplinary approach to scientific innovation in extending healthy life. For further information visit www.wacha.org.au