

Cracking the genetic code of bipolar disorder

Federal Health Minister, mental health champions & researchers appealing for 5,000 West Australian volunteers for world's largest genetic bipolar disorder investigation

Australian researchers are seeking 5,000 West Australian adults who have been treated for bipolar disorder to volunteer for the world's largest genetic investigation into the chronic illness that can prove devastating¹.

The ground-breaking *Australian Genetics of Bipolar Disorder Study* aims to identify the genes that predispose people to bipolar disorder, and how they respond to medication, in order to develop more effective, personalised treatments, and ultimately, find a cure for the illness¹.

The researchers' appeal for volunteers coincides with an article published in *MJA Insight* today citing a sizeable proportion of those living with bipolar disorder do not respond well to Lithium (lithium carbonate) – the mainstay treatment for mania discovered by Australian psychiatrist John Cade more than 60 years ago. The article argues the urgent need to better predict patient response to Lithium, and to find alternative treatments for non-responders.

The Federal Health Minister, mental health champions and everyday Australians are joining the researchers' appeal for volunteers today, to help contribute five per cent of the overall (international) study population¹.

Approximately one in 50 Australians (1.8 per cent) will experience bipolar disorder during their lifetime². The complex disorder, which occurs commonly in families, typically results from a combination of genetic and environmental influences². Those living with bipolar disorder may be at higher risk of developing other health issues, including alcohol and drug abuse, anxiety, cardiovascular disease, diabetes and obesity². They also carry a 15 times greater risk of suicide than the general population, accounting for up to 25 per cent of all suicides².

According to Professor Nick Martin, Australian study co-Investigator and Head of the Genetic Epidemiology Research Group, QIMR Berghofer Medical Research Institute, Brisbane, researchers are seeking 5,000 male and female Australian volunteers aged 18 and older, who have ever been treated for bipolar disorder.

"The human genome contains around 20,000 genes³. We just need a large enough study, performed in the right way, to identify which of those genes are increasing the risk of bipolar disorder.

"Our study should improve our understanding of the biology of bipolar disorder and open the door to new treatments tailored to a person's genetic make-up, to maximise effectiveness and minimise side-effects," said Prof Martin.

The Hon. Greg Hunt MP explains why he is supporting the researchers in their appeal for Australian bipolar disorder study volunteers.

"For me, bipolar disorder is deeply personal. My mother lived with bipolar disorder, and the very last time I saw her, she was in institutional care with severe ramifications from the illness.

"This experience significantly shaped my focus on, and commitment to mental health, particularly with regard to bipolar disorder," Mr Hunt said.

"Australia is helping to lead the world in researching and treating bipolar disorder. The experience and hard data that researchers can glean from being able to interview, and investigate those who have experienced bipolar disorder, will help to both save and protect lives. I genuinely hope, and believe, this important study will help to transform thousands of lives over the coming decades."

According to Dr Darryl Bassett, Consultant Psychiatrist and Adjunct Associate Professor of Psychiatry, University of Western Australia, Perth, "Participation in the study is free and simple – volunteers complete a 20-minute online survey, and those who qualify will be asked to donate a saliva sample¹.

"Identification of the genes that predispose people to bipolar disorder will revolutionise future research into the causes, treatment and prevention of the illness¹".

Study researchers will analyse DNA from saliva samples to identify specific genes associated with bipolar disorder¹. The knowledge will be used to improve current, and develop new treatments for bipolar disorder¹.

To volunteer for the Australian Genetics of Bipolar Disorder Study, head to www.geneticsofbipolar.org.au, email gbp@qimrberghofer.edu.au or call 1800 257 179.

more#

Bipolar disorder is a chronic mental health condition, which results in strong changes in mood and energy levels². People with bipolar disorder (which used to be called “manic depression”) can have depressive, and manic or hypomanic episodes, that can last a week or more, affecting their thoughts and behaviour². The illness requires long-term management, and can severely affect an individual’s ability to function in their daily life³.

Bipolar disorder is the ninth leading contributor to the burden of disease and injury in Australia among females aged 15-24 years, and the 10th leading contributor for males of the same age⁴. Australian research has shown that from the average age of symptom onset (17.5 years), there is a delay of approximately 12.5 years before a diagnosis of bipolar disorder is made⁵.

Mother of two, former senior accountant and now a volunteer, Petra, 46, Perth was diagnosed with bipolar disorder at the age of 27, after years of struggling with crippling childhood anxiety. She has sustained breakdowns, episodes of depression, extreme sadness, self-induced vomiting, pacing, rocking and catatonia.

“Even though I’m on medication now and I’m ok for the most part, my illness is always at the back of my mind. I worry about whether my bipolar disorder will affect my children, and what would happen should I ever drop the bundle again. I would never want to end up back where I was with suicidal thoughts and crying inconsolably.

“There’s a stigma associated with bipolar disorder. But just because you can’t see it, doesn’t mean the illness doesn’t exist,” said Petra.

Petra is participating in the *Australian Genetics of Bipolar Disorder Study* and genuinely hopes her contribution will allow experts to unravel more answers to help treat the illness.

“My father’s aunt was severely depressed, and one of my cousins also has bipolar disorder. There’s definitely a family history.

“The more we know about bipolar disorder, and the greater the data available, the better informed our community will be, which should help to reduce the stigma associated with the illness,” Petra said.

“Bipolar disorder has truly affected my life, sometimes in an incredibly negative way. So I’m fully supportive of this study that aims to shed more light on the illness.”

Study participation

Study participation is strictly confidential. After completing the online survey, participants may be asked to donate a saliva sample, from which researchers can extract their DNA to identify specific genes associated with bipolar disorder¹. QIMR Berghofer researchers will send a saliva collection kit together with a pre-paid return envelope to selected participants¹. QIMR Berghofer will biobank DNA from saliva samples for immediate and future genetic analysis under strict confidentiality, in accordance with the Commonwealth Privacy and National Health and Medical Research Council (NHMRC) Guidelines¹.

Participating in this study will make a genuine contribution to solving bipolar disorder².

About the QIMR Berghofer Medical Research Institute (QIMR Berghofer)

QIMR Berghofer is a world-leading translational research institute specialising in mental health, cancer, infectious diseases, and a range of chronic disorders.⁸ Working in close collaboration with clinicians and other research institutes, QIMR Berghofer aims to improve health by developing new diagnostics, better treatments and prevention strategies. To learn more, head to www.qimrberghofer.edu.au¹. QIMR Berghofer recognises the National Health and Medical Research Council (NHMRC) for its involvement in coordinating this study¹.

ends#

Issued by VIVA! Communications on behalf of QIMR Berghofer.

MEDIA CONTACTS: Kirsten Bruce, 0401 717 566; Holly Hamilton, 0434 799 839, VIVA! Communications
MEDIA KIT: Available for download TUES, NOVEMBER 20 at www.geneticsofbipolar.org.au/media
BROADCAST VISION: Available via satellite feed on TUES, NOVEMBER 20 @ 9:15am AEDST from
7 Network (SYD) – please record & ask Ch 7 in your capital city to on-pass, if an affiliate

References

1. The Australian Genetics of Bipolar Disorder Study. Available at <http://geneticsofbipolar.org.au> [last accessed November, 2018].
2. Black Dog Institute. Clinical Resources; Bipolar Disorder; What is Bipolar Disorder. Available at: <https://blackdoginstitute.org.au/clinical-resources/bipolar-disorder/what-is-bipolar-disorder> [last accessed November, 2018].
3. Ezkurdia, I., Juan, D., et al. (2014). Multiple evidence strands suggest that there may be as few as 19,000 human protein-coding genes. *Human Molecular Genetics*, 23(22), pp.5866-5878.
4. Australian Institute of Health and Welfare 2011. Young Australians: their health and wellbeing 2011. Cat. no. PHE 140 Canberra: AIHW.
5. Berk, M., Dodd, S., Callaly, P., Berk, L., Fitzgerald, P., de Castella, A.R., & Kulkarni, J. (2007). History of illness prior to a diagnosis of bipolar disorder or schizoaffective disorder. *Journal of Affective Disorders*, 103(1-3), 181-186.
6. QIMR Berghofer Medical Research Institute. Available at <http://www.qimrberghofer.edu.au> [last accessed November, 2018].