

Measuring distress in people with Types 1 and 2 diabetes

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(Medical Xpress)—Australian diabetes experts, psychiatrists and neuroscientists have reported the benefits of measuring depression and disease-related distress in patients with diabetes. They have also shown that distress is influenced by heritable genetic changes in the way patients' bodies handle serotonin, a neurotransmitter that regulates mood.

Their aim is to help clinicians quickly identify those people who need psychiatric guidance or counseling to manage their diabetes and to provide practical ways of helping.

The most recent paper to come out of the study, now published online in *Psychosomatics*, relates control of [blood sugar levels](#) with the degree of disease-related distress (measured by a questionnaire known as PAID).

A second paper, published online last year in [Psychiatry Research](#) and from the same study, examines the relationship between depression and

anxiety and the presence or absence of a common variant in genes that regulate [serotonin levels](#). The paper revealed that those with the risk variant had significantly higher disease-related distress.

The multidisciplinary collaborative effort included Professor Lesley Campbell, senior clinical researcher at the Garvan Institute of Medical Research and Director of Diabetes Services at St. Vincent's Hospital; Professor Kay Wilhelm, a Liaison Psychiatrist and Research Director of Faces in the Street, the Urban Mental Health and Wellbeing Institute at St. Vincent's Hospital; Psychiatry [PhD student](#) Dr Jaya Reddy; Professor Philip Mitchell, Professor of Psychiatry, University of NSW and Professor Peter Schofield, Executive Director of [Neuroscience Research Australia](#).

One hundred and eighty four diabetes patients² agreed to participate, 75% with [Type 2 diabetes](#), 25% with [Type 1 diabetes](#). Each person completed the PAID questionnaire, agreed to serotonin genotyping, and was interviewed to assess their depression history by either Professor Wilhelm or Dr Reddy.

"Our *Psychosomatics* paper clearly showed that diabetes-related distress predicts the level of chronic blood glucose control, and we saw a high level of distress in people related to their disease," said Professor Campbell.

"When people are distressed, it interferes with their ability to look after themselves – and most clinicians are at sea as to how to handle that. They talk about non-compliant patients, but they don't figure the distress of the patient as part of the story."

"Although this study looks specifically at diabetes, it is also a paradigm for other chronic disease distress management, including coronary heart disease and stroke."

In collaboration with Professor Schofield, Professor Wilhelm has been studying the effects of people's serotonin genotype on their ability to regulate emotion. Those with a specific variant appear to be more excitable, less able to control their emotions in a crisis.

"Diabetes is known to be a chronic stressor – and we wanted to see if there were reliable ways of predicting stress, anxiety and depression to give doctors a practical way of helping people," said Professor Wilhelm.

"It's interesting to note that a person's genetic make-up predicts their ability to cope with stress, and that in turn determines their level of distress."

"While depression and distress both affect a person's ability to cope with [diabetes](#), distress is easier to measure with the PAID questionnaire and much more accurately predicts disease management."

"We're now working on an algorithm to identify people at risk and personalise their treatment options – using PAID as well as a measure of depression and anxiety. Ideally, we'd like to see patients complete a questionnaire in the waiting room. That would allow the treating clinician to see immediately whether or not they have a high distress score – and then give appropriate advice."

"Importantly, we plan to give clinicians some ideas about what to do in the case of high distress. There are plenty of good evidence-based ways of dealing with stress. Some involve things like problem solving, some involve a technique called 'mindfulness' –a pre-meditation technique where you savour the moment and empty your mind. Mindfulness is extremely effective in giving people more emotional control – and in decreasing further episodes for people who have been depressed."

"There are other things that help including bright light in the mornings, a

good diet, staying away from tobacco and recreational drugs, and doing exercise."

Professor Wilhelm has created a series of business card sized brief interventions to enable people to deal better with stressful situations, including chronic health conditions. She is making them into an app for smart phones.

Testing for genetic susceptibility to [distress](#) provides a useful mechanism for how individuals deal with stress and it may improve patient outcomes in the future, although further studies are needed to assess the benefits of this approach.

Provided by Garvan Institute of Medical Research

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