MedicalXpress

Early detection method hopes to prevent psychosis

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Mental health researchers have made a promising breakthrough in the early detection of the risk of psychosis, with the eventual hope that patients could be given appropriate treatments earlier to prevent psychotic episodes from occurring.

Published in the *Nature* journal *Translational Psychiatry*, a new probability model developed by researchers in the University of Adelaide's Discipline of Psychiatry has shown 70% accuracy in predicting patients who are at greatest risk of having their first psychotic episode within 12 months, compared with the 28% accuracy of the current criteria for those who are at "ultra-high risk".

The new model combines medical history, the latest bedside clinical assessment, and biomarkers of fatty acids to determine a patient's risk of psychosis. In this preliminary study, the researchers used data from 40 European patients.

Speaking during Mental Health Week (9-15 October), lead author Dr Scott Clark from the Discipline of Psychiatry says: "Of those patients who are considered to be 'ultra-high risk', only about 30% of them go on to experience a psychotic episode in the long-term. A more reliable and flexible method of prediction is needed to tailor care appropriately for the people who need it most.

"Our model represents an enrichment of the diagnostic process," Dr Clark says.

"Currently all patients in the ultra-high risk group are considered to have a similar chance of a future psychotic episode, however we have been able to identify high, intermediate and low-risk groups.

"The model may help clinicians to decide when a patient's risk of psychosis outweighs any side effects of treatment."

The probability model developed by Dr Clark and colleagues takes into account the critical role of fatty acids as well as mental health assessments.

"Fatty acids such as omega-3 and nervonic acid are critical for the normal functioning of the brain, and low levels have been associated with the development of psychosis in high-risk groups," Dr Clark says.

"In our model, fatty acid levels provided improved accuracy of prediction when patients were at intermediate risk following clinical assessment."

Dr Clark says clinical trials based on this model could occur within the near future.

"We're very encouraged by the results of our studies so far, some of which we are replicating in a larger Australian sample in collaboration with the Orygen group in Melbourne. The modelling technique has been taken up by other researchers nationally and internationally."

More information: S R Clark et al, Prediction of transition from ultra-high risk to first-episode psychosis using a probabilistic model combining history, clinical assessment and fatty-acid biomarkers, *Translational Psychiatry* (2016). DOI: 10.1038/tp.2016.170