



A thinner cortex predicts a better response to CBT

By Jessica K. Edwards

David Pagliaccio and colleagues in the USA have used magnetic resonance imaging (MRI) to identify neural markers that might predict a child's response to treatment for obsessive-compulsive disorder (OCD). The researchers recruited 28 unmedicated children with OCD and 27 matched healthy participants, and conducted MRI at baseline to estimate the sub-cortical volumes and cortical thicknesses in the brain. The patients with OCD then completed 12-16 cognitive-behavioural therapy (CBT) sessions and the intervention outcomes were correlated with the imaging data.

The researchers found that children with OCD exhibited reduced white matter connectivity in brain networks that typically support cognitive control processes (i.e., the ability to control one's thoughts and behaviours) compared with healthy children. They also identified that the thickness of several regions in these control networks predicted a patient's response to therapy. In short, the thinner the cortices, the better responses these children had to CBT.

"As treatment for OCD can be expensive and time-consuming, and given that a portion of patients will not always respond, finding markers of who is likely to respond could help to guide treatment selection", explains Pagliaccio. "Because these identified regions that support control processes tend to thin over typical

development, our findings might suggest that advanced cortical maturation may relate to a better CBT response. Our identification of pre-treatment neural markers could, therefore, help to identify patients most likely to respond to exposure-based therapy or other treatments in the future". The researchers are now conducting a larger study of younger children with OCD to identify neural risk markers for OCD development.

Referring to:

Pagliaccio, D., Cha, J., He, X., Cyr, M., Yanes-Lukin, P., Goldberg, P., Fontaine, M., Rynn, M.A. and Marsh, R. (2019), Structural neural markers of response to cognitive behavioural therapy in paediatric obsessive-compulsive disorder. *J. Child Psychol. Psychiatr.* doi: 10.1111/jcpp.13191.

Glossary:

Cognitive-behavioural therapy: a form of talking therapy that encourages patients to manage their psycho-social problems by changing the way they think and behave; CBT focuses on current problems and finds practical ways to improve state-of-mind on a day-by-day basis.