Psychoeducation may affect brain plasticity in bipolar disorder

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An investigation in the current issue of *Psychotherapy and Psychosomatics* explores how psychoeducation may affect white matter plasticity in bipolar disorder. Bipolar disorder (BD) is a severe mood disorder which is often difficult to treat. Pharmacological treatments are often effective in symptom management, but their effects are generally insufficient on a functional level. Among psychosocial interventions, psychoeducation has recently shown significant and long-lasting effects on treatment adherence, relapse prevention and global functioning. Psychoeducation is now positioned as an essential part of therapeutic strategies in BD, although its mechanistic neural action has not yet been precisely identified. In the present study the Authors tested the hypothesis that psychoeducation would be associated with anatomical changes of the frontolimbic connectivity in patients with BD.

Twenty-four euthymic patients with BD were randomly assigned to a 3-month psychoeducation (PED) or support (SUP) group program. Twelve HS were included to form a control (CTL) group for an initial between-group comparison. Ten patients and 10 HS had participated in a previous fMRI study with different aims. Both PED and SUP group programs were conducted in a parallel design, i.e., 12 sessions, 1 session per week, within the same period to exclude potential seasonality-induced variability.

Results showed that BD patients experienced a significant decrease in depressive symptom severity and a significant increase in global functioning after the psychoeducation but not after the SUP group.

Patients of the PED group presented significantly reduced MD along the left uncinate fasciculus after the psychoeducation program compared to before whereas patients of the SUP group did not. In both patient groups, we observed no change in GFA of right and left uncinate fasciculus. There were no significant differences between BD and CTL at t1 either on GFA or on MD within both right and left uncinate fasciculus. As the Authors explain, the decrease of the MD within the left uncinate fasciculus after the psychoeducation suggests beneficial effects of psychoeducation on frontolimbic tracts. Since higher levels of MD are associated with myelin damage, a possible explanation for the observed MD change in our study is increased myelination after psychoeducation.

More information: Pauline Favre et al. White Matter Plasticity Induced by Psychoeducation in Bipolar Patients: A Controlled Diffusion Tensor Imaging Study, *Psychotherapy and Psychosomatics* (2015). DOI: 10.1159/000441009

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