

# Mania

Mania, also known as manic syndrome, is a state of abnormally elevated arousal, affect, and energy level, or “a state of heightened overall activation with enhanced affective expression together with lability of affect.”

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Acute mania is a serious medical condition that impacts men and women equally. Longtime presentation of manic symptoms is sex-dependent; however, little is known about acute symptoms of mania. The objective of this study is to track and compare acute manic symptoms for sex differences during inpatient hospitalization.

All patients with bipolar mania admitted to a large university hospital between January and October 2017 were invited to participate in this longitudinal naturalistic follow-up study. Manic (YMRS), depressive (MADRS), and psychotic (PAS) symptoms were tracked daily from admission to discharge.

The total YMRS scores decreased significantly overtime ( $p < .0001$ ) in both male ( $n = 34$ ) and female ( $n = 23$ ) patients ( $p = .7$ ). However, male patients scored significantly higher in sexual interest ( $p = .01$ ), disruptive and aggressive behavior ( $p = .01$ ), and appearance ( $p < .001$ ) while females had better insight into their illness ( $p = .01$ ). Males and females received similar doses of lithium ( $p = .1$ ), but males received significantly higher doses of valproic acid (VPA) in comparison with females ( $p = .003$ ). However, plasma lithium and VPA concentrations at discharge were not significantly different between sexes.

The results show sex differences in the progression of certain domains of manic symptoms in a cohort of 23 female and 34 male patients admitted to a large academic center in Turkey. Males, in this sample, exhibited more sexual interest, disruptive and aggressive behaviors, better grooming, and less insight compared to females. While these results are concordant with our preclinical findings and with anecdotal clinical observations, replication in larger samples is needed <sup>1)</sup>.

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A first manic episode after 50 years of age is uncommon. Late Onset Mania might be indicative of abnormalities in white matter, probably related to vascular, degenerative, or inflammatory processes.

**Objective:** To determine if patients with late onset mania have reduced white matter integrity according to Magnetic Resonance Diffusion Tensor Imaging (DTI) and structural MRI.

**Methods:** Twenty-two patients with late onset mania (>50 years old) and 22 age-paired healthy subjects were included in the study. Fractional anisotropy (FA) was used as a quantitative measure of white matter integrity. Fazekas scale was assessed also to measure white matter abnormalities in the FLAIR sequence. The Frontal Assessment Battery, COGNISTAT and Trail making test A and B were used as cognitive measurements.

**Results:** According to DTI, commissural connections (left corpus callosum), and limbic connections (right and left uncinate fasciculus) were different between the patients and the comparison group. Fractional anisotropy values in the left corpus callosum showed significant correlations with neuropsychological measures, and with the Fazekas scale score. According to Fazekas scale, a pathological score in the FLAIR sequence was significantly more frequent in the patients as compared

to the comparison group.

Conclusions: Patients with first episode mania in late life have relevant white matter abnormalities not explained by age, affecting interhemispheric and fronto-limbic networks probably related to executive functioning and emotional processing, at the level of the corpus callosum and the uncinate fasciculus. The etiology of this white matter loss of integrity in patients with late-onset mania is yet to be explored <sup>2)</sup>.

<sup>1)</sup>

Abulseoud OA, Şenormancı G, Şenormancı Ö, Güçlü O, Schleyer B, Camsari U. Sex difference in the progression of manic symptoms during acute hospitalization: A prospective pilot study. *Brain Behav*. 2020 Feb 13:e01568. doi: 10.1002/brb3.1568. [Epub ahead of print] PubMed PMID: 32053271.

<sup>2)</sup>

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