LONGITUDINAL GREY MATTER CHANGES FOLLOWING FIRST EPISODE MANIA: A SYSTEMATIC REVIEW

Research objectives:
Few longitudinal magnetic resonance imaging (MRI) studies exist which follow Bipolar I Disorder (BDI) patients, starting at their first episode of mania and performing brain scans again after a predetermined time interval. Those that do exist present conflicting results, highlighting different areas, and have different follow-up times. To better understand potential neuroprogressive processes early in the disease course, we have conducted an in-depth systematic review of studies that have used MRI to investigate the presence or absence of longitudinal grey-matter changes in BDI patients following FEM.

Methods:
A systematic review following PRISMA guidelines was conducted. MEDLINE, Embase, and the Web of Science were searched for relevant studies. Only original research studies using structural MRI in BDI patients following FEM with a minimum one-year follow up were included in our analysis.

Results:
Of 912 publications, 15 studies met our inclusion criteria and were selected for analysis. Results of baseline and longitudinal grey-matter change were largely inconsistent and specific regions studied varied greatly. However, frontal lobe structures, such as the anterior cingulate cortex, appeared as significant in a number of the studies reviewed.

Conclusions:
This review provides a foundation upon which further research in this field can be conducted, as we continue to search for a specific neural marker of early-stage BDI that can be a target of early intervention strategies.