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Letter to the editor

Pooling of data in psychiatric neuroimaging: A bridge towards clinical neuroimaging?

Dear Editor,

In the past 10 years, rapid improvements in imaging technology and methodology have had an enormous impact on our understanding of the neurocognitive basis of psychiatric disorders. Detailed images of the anatomy of the grey and white matter can be obtained using sMRI and DTI. The main transmitter systems implicated in psychiatric disorders can be examined in vivo using SPET and PET, while the biochemistry of the brain can be investigated using MRS [3]. However, despite these promising perspectives, these methods are not used outside of the research setting in the clinical practice of psychiatry today. Differences in experimental design, technical differences of fMRI data acquisition, demographical characteristics of samples, clinical heterogeneity of psychiatric diagnostic criteria, differential exposure to medication or head motion during scanning may account for inconsistencies across neuroimaging findings. While further advances are likely with technological improvements, we hypothesize that modern neuroimaging may overcome the above discussed confounders and prove more consistent results provided it is applied to larger samples than have been examined hitherto. This may entail the pooling of data from different centres and large-scale data sharing. In line with this assumption, reliable methods for quantitative meta-analysis, such as the coordinate-based, Voxel-wise mega-analysis (CMV), are under development and may represent a powerful tool for combining the results of multiple primary studies reported in standard stereotactic space [1,2]. Future research in this field is warranted and may start to align neuroimaging research and clinical functions: identifying risk factors for mental disorders, predicting course and selecting treatment and dose [4].

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