

LONGITUDINAL STUDIES ON ASSOCIATIONS BETWEEN USE OF ANTIPSYCHOTICS AND BRAIN MORPHOMETRIC CHANGES IN SCHIZOPHRENIA - A SYSTEMATIC REVIEW

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Introduction: Relatively little is known on longitudinal effects of antipsychotic medication on brain morphometry in schizophrenia after the illness onset. There are inconsistent findings on medication effects on brain structures.

Objectives: We will study the effect of antipsychotic medication on brain volumes in schizophrenia.

Aims: The aim of the current study was to systematically review previous literature on longitudinal MRI studies of antipsychotic effects on brain morphometric changes in schizophrenia and related psychoses.

Methods: Studies were systematically collected using four different databases. A study was included if subjects were scanned twice, the average scanning interval was at least two years and antipsychotic medication data was used to predict morphometric changes. The studies focused on several different brain areas; we categorized these into eleven larger areas.

Results: In total 22 studies fulfilled our inclusion criteria. The main finding of our study was that most of the reported correlations were statistically non-significant. The significant associations between antipsychotic use and brain changes were reported from various areas. In the studies with significant findings, use of antipsychotics more often associated with decrease than increase of brain volumes, even in the very few studies taking into account illness severity.

Conclusions: Antipsychotic medication should be adjusted to lowest possible dose for reducing psychotic symptoms and prescribed with caution especially to people not suffering from psychosis. More studies in different kind of patient populations are needed to clarify the possible adverse effect antipsychotic medication may have on brain structure.