

Title: The effect of atypical antipsychotic half-life on hospitalization in the community treatment of adult schizophrenia

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Objective: Examine the effect of atypical antipsychotic half-life on the risk of psychiatric hospital admission and emergency room visits among adults diagnosed with schizophrenia.

Method: Retrospective longitudinal claims-based cohort study of adult Medicaid beneficiaries with schizophrenia who were prescribed antipsychotic monotherapy following hospital discharge between 1/1/04 and 12/31/06. Cox proportional hazards models compared adjusted hazards of psychiatric hospital admission among patients treated with oral antipsychotics that have either a long [risperidone ($t_{1/2}$ =20 hours), olanzapine ($t_{1/2}$ =30 hours), aripiprazole ($t_{1/2}$ =75 hours)] (n=1,479) or short [quetiapine ($t_{1/2}$ =6 hours), ziprasidone ($t_{1/2}$ =7 hours)] (n=837) half-life. Day level models controlled for baseline background characteristics and antipsychotic adherence over time as measured by gaps in the prescription record. Similar analyses examined either psychiatric hospitalization or emergency room visit as an endpoint.

Results: The unadjusted rate of psychiatric hospitalization was significantly lower for long (0.38/patient-year) versus short (0.52/patient-year) half-life antipsychotics ($p<.001$). A significantly lower rate of hospitalization/emergency visits was also evident for long (0.74/patient-year) versus short (1.06/ patient-year) half-life antipsychotics ($p<.001$). As compared with short half-life antipsychotic drugs, the adjusted hazard ratio associated with long half-life medications was 0.80 (95% CI: 0.67-0.96) for psychiatric hospitalization and 0.77 (95% CI:0.67-0.88) for combined hospitalization/emergency visits. The corresponding number needed to treat with long, rather than short, half-life medications to avoid 1 hospitalization was 16 patients for 1 year and to avoid 1 hospitalization or emergency visit was 11 patients for 1 year.

Conclusions: In the management of schizophrenia, longer acting atypical antipsychotics were associated with a lower risk of psychiatric hospital admission.

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