

Effects of Second-Generation Antipsychotics on Total Sleep Time in Patients With Schizophrenia

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Objective: Sleep disturbances are common among patients with schizophrenia, and second-generation antipsychotics (SGAs) may influence sleep duration. However, the association between different SGAs and total sleep time (TST) in acute inpatient settings remains unclear. This study examined the associations of SGA group and chlorpromazine equivalent dose (CPZ equivalent dose) with TST among patients with schizophrenia hospitalized in acute psychiatric wards.

Methods: This retrospective observational study used inpatient clinical records and data from the acute psychiatric wards of Kaohsiung Kai-Syuan Psychiatric Hospital between October 2023 and June 2025. Observational records were included if patients were diagnosed with schizophrenia, received antipsychotic monotherapy with an SGA, and did not receive benzodiazepines (BZDs). The SGAs analyzed were aripiprazole, clozapine, olanzapine, paliperidone, and risperidone. TST was obtained from inpatient nursing records. Variables were summarized over observation intervals of 3 to 4 months according to the hospital's routine reporting process; therefore, some patients contributed repeated observations. A linear mixed-effects model was used, with participant ID included as a random intercept. Fixed effects included SGA group, sex, CPZ equivalent dose, age, height, weight, and treatment duration.

Results: A total of 175 inpatient observational records were included: 6 for aripiprazole, 90 for clozapine, 26 for olanzapine, 21 for paliperidone, and 32 for risperidone. The overall mean age was 60.73 ± 10.07 years, and 70.9% of observations were from male patients. The overall mean TST was 7.77 ± 0.73 hours. In the linear mixed-effects model, SGA group was not significantly associated with TST after adjustment for covariates and repeated observations, $F(4, 76.657) = 1.132$, $p = 0.348$. CPZ equivalent dose was also not significantly associated with TST, $F(1, 113.009) = 0.101$, $p = 0.752$. Age showed a nonsignificant negative trend with TST, $F(1, 65.979) = 3.443$, $p = 0.068$.

Conclusion: Among patients with schizophrenia hospitalized in acute psychiatric wards and receiving SGA monotherapy without BZD use, neither SGA group nor CPZ equivalent dose was significantly associated with TST. These findings suggest that TST in inpatient settings may be influenced by illness-related, environmental, and individual factors, and may not fully capture the sleep-related effects of SGAs. Future studies incorporating polysomnography, wearable sleep monitoring, and subjective sleep assessments are warranted.