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Reduced cardiovascular fitness associated with exposure to clozapine in individuals with chronic schizophrenia

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Abstract:
Studies show that individuals with schizophrenia have impaired cardiovascular fitness (i.e., low peak aerobic power (VO\textsubscript{2peak})). It is speculated that antipsychotics with adverse cardiovascular and metabolic profiles, in particular clozapine, have a significant impact on VO\textsubscript{2peak}. In this cross-sectional study, we examined whether exposure to clozapine was associated with further reduced VO\textsubscript{2peak} compared with non-clozapine antipsychotics. Thirty participants with chronic schizophrenia or schizoaffective disorder were divided into clozapine and non-clozapine groups. Mean daily doses of antipsychotics were standardized to chlorpromazine equivalents and haloperidol equivalents for antagonism of alpha\textsubscript{1}- and alpha\textsubscript{2}-adrenergic receptors. Participants completed an incremental-to-maximal symptom-limited exercise test on a cycle ergometer for the assessment of VO\textsubscript{2peak}. The clozapine group demonstrated significantly lower VO\textsubscript{2peak} than the non-clozapine group. Haloperidol equivalents for alpha-adrenergic receptor antagonism, but not chlorpromazine equivalents, demonstrated significant inverse associations with VO\textsubscript{2peak}. 
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