

# Beta-blocker use associated with lower rates of violence

January 31 2023

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$\beta$ -blockers may reduce aggression in persons with major psychiatric disorders.  
Credit: Dan Burton, Unsplash (CC0, [creativecommons.org/publicdomain/zero/1.0/](https://creativecommons.org/publicdomain/zero/1.0/))

Reductions in violence are seen in individuals using Beta adrenergic-

blocking agents ( $\beta$ -blockers) compared with periods that they are not taking the medication, finds a study published January 31 in the open-access journal *PLOS Medicine*. If the findings are confirmed by other studies,  $\beta$ -blockers could be considered as a way to manage aggression and hostility in individuals with psychiatric conditions.

$\beta$ -blockers are used to treat hypertension, angina and acute cardiovascular events, [heart failure](#) and arrhythmias as well as, migraine, symptoms of hyperthyroidism and glaucoma. They are often used for anxiety and have been suggested for [clinical depression](#) and aggression, but evidence is conflicting. They have been linked to an increased risk of suicidal behavior though evidence is inconclusive.

Seena Fazel of the University of Oxford, U.K., and colleagues at the Karolinska Institute in Sweden investigated psychiatric and behavioral outcomes: hospitalizations for psychiatric disorders; suicidal behavior and deaths from suicide; and charges of [violent crime](#). They compared 1.4 million  $\beta$ -blocker users in Sweden to themselves during medicated and non-medicated periods over an eight-year period from 2006–2013.

Periods on  $\beta$ -blocker treatment were associated with a 13% lower risk of being charged with a violent crime by the police, which remained consistent across the analyses. Additionally, an 8% lower risk of hospitalization due to a psychiatric disorder was reported as well as an 8% increased association of being treated for suicidal behavior. However, these associations varied depending on psychiatric diagnosis, past psychiatric problems, as well as the severity and type of the cardiac condition the  $\beta$ -blockers were being used to treat.

Previous research has linked severe cardiac events to an increased risk of depression and suicide, and these results might suggest that the [psychological distress](#) and other disabilities associated with serious cardiac problems, rather than the  $\beta$ -blocker treatment, increases the risk

of serious psychiatric events. In secondary analyses, associations with hospitalization were lower for major depressive but not for [anxiety disorders](#).

In order to understand the role of  $\beta$ -blockers in the management of aggression and violence, further studies including randomized controlled trials are needed. If these confirm the results of this study,  $\beta$ -blockers could be considered to manage aggression and violence in some individuals.

Fazel adds, "In a real-world study of 1.4 million persons,  $\beta$ -blockers were associated with reduced violent criminal charges in individuals with [psychiatric disorders](#). Repurposing their use to manage aggression and violence could improve patient outcomes."

**More information:** Associations between  $\beta$ -blockers and psychiatric and behavioural outcomes: A population-based cohort study of 1.4 million individuals in Sweden, *PLoS Medicine* (2023). [DOI: 10.1371/journal.pmed.1004164](#)

Provided by Public Library of Science

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