

RESEARCH FINDINGS SUMMARY

Community Violence and Inflammation in Youth



QUICK SUMMARY

This study evaluated the links between neighborhood violence and immune cells which contribute to inflammation in the body. We looked at 203 adolescents in Chicago and the violence that occurred in their neighborhoods. We found that youth from high-violence neighborhoods had more of a certain type of immune cell that drives inflammation when compared to youth from less violent neighborhoods. These findings suggest that the stress of neighborhood violence might not only be linked to mental health in youth, but also to aspects of their physical health.

WHAT IS THE RESEARCH ABOUT?

Youth in high-violence neighborhoods can experience worry and fears related to their safety. We conducted this study to test whether there might also be physical health associations of exposure to violence through low-grade inflammation in the body, which is linked to health problems such as obesity, diabetes, heart disease, and stroke.



WHAT DID WE DO?

A sample of 277 adolescents from the Chicagoland area between the ages of 11 and 15 took part in the study. During their visit to our research center, youth provided a blood sample to measure their immune cells. We used participants' addresses to determine neighborhood violence based on: 1. murder rates from the FBI's Uniform Crime Report, and 2. the total number of homicides within a 5 year period that took place in the youth's neighborhood. We also gave youth surveys about their personal exposure to various kinds of violence.

WHAT DID WE FIND?



On average, youth in our sample experienced an average of 26 homicides over a 5 year period within one mile of their home. On average, youth reported personal exposure to 2.1 violent events in the past year, although 45% reported no exposure to violent events. High levels of a certain type of immune cell called classical monocytes were linked with high neighborhood murders rates. This association was especially evident in youth who reported in the surveys that they personally experienced violence. Classical monocytes are a key driver of inflammation in the body.

WHAT SHOULD YOU REMEMBER?



Witnessing or being a victim of violence can increase feelings of fear or stress and reduce feelings of safety for many people. The key take-away from our study is that neighborhood violence levels are also linked to inflammatory profiles in youth that relate to physical health risks later in life.

PUBLICATIONS

1. Finegood, E. D., Chen, E., Kish, J., Vause, K., Leigh, A., Hoffer, L., & Miller, G. E. (2020). Community violence and cellular and cytokine indicators of inflammation in adolescents. *Psychoneuroendocrinology*, 115, 104628. <https://doi.org/10.1016/j.psyneuen.2020.104628>

ABOUT THIS SUMMARY

This summary was prepared by Samira Asseh on behalf of the Foundations of Health Research Center at Northwestern University. You can access all of our research for free at our website, www.foundationsofhealth.org/publications.