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Journal of the National Medical Association

Volume 109, Issue 4, Winter 2017, Pages 246-251

Special Section: Violence

Infant Deaths and Mortality from Gun Violence: Causal or Casual?

Robert S. Levine M.D. ^a   ... Charles H. Hennekens M.D., Dr PH ^f

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<https://doi.org/10.1016/j.jnma.2017.08.005>

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Abstract

Objective

Describe trends in non-Hispanic black infant mortality (IM) in the New York City (NYC) counties of Bronx, Kings, Queens, and Manhattan and correlations with gun-related assault mortality.

Methods

Linked Birth/Infant Death data (1999-2013) and Compressed Mortality data at ages 1 to ≥ 85 years (1999-2013). NYC and United States (US) Census data for income inequality and poverty. Pearson coefficients were used to describe correlations of IM with gun-related assault mortality and other causes of death.

Results

In NYC, the risk of non-Hispanic black IM in 2013 was 49% lower than in 1995 (rate ratio: 0.51; 95% CI: 0.43, 0.61). Yearly declines between 1999 and 2013 were significantly correlated with declines in gun-related assault mortality (correlation coefficient (r) = 0.70, p = 0.004), drug-related mortality (r = 0.59, p = 0.020), major heart disease and stroke (r = 0.85, p < 0.001), malignant neoplasms (r = 0.57, p = 0.026), diabetes mellitus (r = 0.63, p = 0.011), and pneumonia and influenza (r = 0.78, p < 0.001). There were no significant correlations of IM with chronic lower respiratory or liver disease, non-drug-related accidental deaths, and non-gun-related assault. Yearly IM (1995-2012) was inversely correlated with income share of the top 1% of the population (r = -0.66, p = 0.007).

Conclusions

In NYC, non-Hispanic black IM declined significantly despite increasing income inequality and was strongly correlated with gun-related assault mortality and other major causes of death. These data are compatible with the hypothesis that activities related to overall population health, including those pertaining to gun-related homicide, may provide clues to reducing IM. Analytic epidemiological studies are needed to test these and other hypotheses formulated from these descriptive data.



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Keywords

Infant Mortality; African American; Assault

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Conflicts of interest: None of the authors reports a conflict of interest.

Funding: This work was not supported by external funding. Professor Hennekens reported that he is funded by the Charles E. Schmidt College of Medicine of Florida Atlantic University; serves as an independent scientist in an advisory role to investigators and sponsors as Chair or Member of Data and Safety Monitoring Boards for Amgen, AstraZeneca, Bayer, British Heart Foundation, Cadila, Canadian Institutes of Health Research, DalCor, Lilly, Regeneron and the Wellcome Foundation; to the United States (U.S.) Food and Drug Administration, UpToDate, and to Pfizer and its legal counsel; receives royalties for authorship or editorship of 3 textbooks and as coinventor on patents for inflammatory markers and CV disease that are held by Brigham and Women's Hospital; has an investment management relationship with the West-Bacon Group within SunTrust Investment Services, which has discretionary investment authority and does not own any common or preferred stock in any pharmaceutical or medical device company. Professor Levine reported that he is funded as a 0.2 FTE by the Baylor College of Medicine and serves as a consultant to preventive medicine residencies at Meharry Medical College.

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