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

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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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