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Int J Cardiol. 2017 Dec 1;248:333-335. doi: 10.1016/j.ijcard.2017.08.023. Epub 2017 Aug 9.

Pregavid hypertension may have different secondary sex ratio effects in different races in the United States.

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Abstract

BACKGROUND: Males are born in excess of females and the ratio is expressed as M/F (male/female births=secondary sex ratio, also known as secondary sex ratio). This is expected to approximate 1.048. Racial M/F disparities are known. A recent study in China showed that pregravid systolic hypertension is higher in women who delivered a boy than in those who had a girl. This study was carried out in order to identify the effect of pregravid hypertension in the United States on M/F by race.

METHODS: Monthly male and female live births by race for the entire US along with the presence/absence of hypertension were obtained from the website of the Centers for Disease Control and Prevention for 2007-2015 for the four racial groups: American Indian or Alaska Native, Asian or Pacific Islander, Black or African American and White.

RESULTS: This study analysed 36,364,253 live births. For White births, mothers who had chronic hypertension were likelier to have male than female offspring when compared to non-hypertensives ($p=0.003$). Conversely, Black or African American mothers who had hypertension were less likely to have male than female offspring when compared to non-hypertensives ($p=0.022$). There were F differences for/F differences for the presence or absence of hypertension for the other two races or for the total.

CONCLUSIONS: It is possible that hypothesised innate interracial periconceptual hormonal differences may modulate M/F responses to hypertension in different races.

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KEYWORDS: Birth rate/*trends; Hypertension; Infant, newborn; Sex ratio; United States

PMID: 28811091 DOI: [10.1016/j.ijcard.2017.08.023](https://doi.org/10.1016/j.ijcard.2017.08.023)

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