



The Graduate School of Biomedical Sciences Masters in Clinical Investigation Program

Announces the MSCI Thesis Defense of

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Prevalence and Outcomes of Hypertensive Disorders of Pregnancy in Non-Metropolitan and Metropolitan Communities

Thursday, April 15, 2021 at 11 a.m. Via Zoom Meeting

Background Hypertension during pregnancy is a leading cause of maternal mortality and adverse pregnancy outcomes. Since non-metropolitan communities face higher rates of several risk factors for hypertension in pregnancy and shortages in obstetrical services, persons residing in non-metropolitan areas may be at increased risk for adverse outcomes compared to those living in metropolitan areas. Our study objectives were to examine by county of maternal residence (1) the prevalence of chronic hypertension (cHTN) and hypertensive disorders of pregnancy (HDP), and (2) the prevalence of adverse maternal and neonatal outcomes associated with hypertension.

Methods Using U.S. birth certificate data from 2016 to 2018, we described the prevalence of cHTN and HDP and the association of each with several maternal and neonatal outcomes, stratified by non-metropolitan vs. metropolitan county of maternal residence. Multivariable Poisson regression models were used to calculate adjusted prevalence ratios for several maternal and neonatal outcomes for individuals with cHTN or HDP who lived in non-metropolitan versus metropolitan counties.

Results The prevalence of cHTN and HDP for US live births was 2.2% and 7.4%, respectively, among non-metropolitan pregnant individuals and 1.8% and 6.6%, respectively, among metropolitan pregnant individuals. After adjusting for several sociodemographic characteristics among those with HDP, the prevalence ratio for an APGAR score < 7 at 5 minutes (aPR 1.34, 95% CI 1.29-1.38) and neonatal death (aPR 1.36, 95% CI 1.15-1.62) was increased among offspring born to women who resided in non-metropolitan counties. The prevalence ratio for all other maternal and neonatal outcomes was equivalent or lower among those with HDP who resided in non-metropolitan counties. Similar results were seen among those with cHTN.

Conclusions The prevalence of cHTN and HDP is modestly elevated in non-metropolitan areas, but most associated adverse and neonatal outcomes were similar among non-metropolitan areas compared to metropolitan areas. Further research should investigate whether this observation holds when using alternate definitions of rural and urban areas of the U.S and if there are features of care in non-metropolitan communities that explain their comparatively low risk of adverse pregnancy outcomes.

Mentor

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