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The relationship between socioeconomic status and hypertension in South African adolescents

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Abstract

Background: Hypertension is a non-communicable condition marked by consistently elevated systolic and diastolic blood pressures. Hypertension is associated with adverse outcomes including various manifestations of morbidity e.g., cardiovascular disease, and disability, and mortality. Literature suggests that hypertension may be associated with socioeconomic status (SES), in addition to a range of other explanatory variables. Yet, pathways of this relationship in adolescence are not clear due to a paucity of data on hypertension and its correlates in this population, particularly in low- and middle-income countries (LMIC). Therefore, this study aimed to examine the relationship between SES and hypertension and identify the possible pathways between SES as exposure and the onset of hypertension among adolescents in South Africa.

Methods: The primary data accessed for this study were from the South African Demographic and Health Survey of 2016. A secondary analysis of the data entailed a crude estimation of the prevalence of hypertension and a survey-weighted investigation of correlates of hypertension among adolescents. For this secondary analysis, SES was categorized into five quintiles namely; poorest, poorer, middle, richer, and richest. Hypertension was defined as BP greater than the 95th percentile for sex, height and age in adolescents aged 17 years and younger. Among those aged 18 and 19 years, hypertension was defined as SBP above 140 mmHg and/or DBP above 90mmHg. Logistic regression models and generalized structural equation modelling (SEM) were then employed to examine the relationship between SES and hypertension in adolescence.

Results: The overall prevalence of hypertension in the study was 26% and was higher in males (28.3%) compared to females (24.6%). The relationship between SES and hypertension was not statistically significant. After adjusting for potential confounders age, sex, BMI, and level of education, the relationship between SES and hypertension remained one of no statistical significance. However, the results still suggested an increased risk of hypertension by 17% and 18% among the lowest two SES quintiles while the highest SES quintile suggested a 32% decreased risk of hypertension. From the GSEM results it was observed that age and BMI were the only factors that influenced hypertension with OR = 0.72 (95% CI: 0.63 - 0.82) and OR = 1.06 (95% CI:1.02 - 1.11) respectively.

Conclusion: This study reported a high prevalence of hypertension among adolescents in South Africa. Surprisingly, there was no association between SES and hypertension. This

study emphasizes a need for further social epidemiology research on hypertension in this age group, preferably with other proxies of socioeconomic status besides the wealth index. There is a need for such data to then influence health policies to address the high burden of hypertension in adolescents.

Keywords: Hypertension, socioeconomic status, adolescents, South Africa, Demographic and Health Surveys.