The Role of Psychosocial Factors on Elevated Levels of Blood Pressure Among Residents of a Midwestern Micropolitan Community

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Background & Significance

- In the United States, between the years 2000 and 2013, hypertension accounted for 23% of all deaths in the country.
- Causes of hypertension can be traced back to physiological mechanisms, but psychological factors could also contribute to the elevated rates of hypertension observed in the US.
- Depression and a state of vigilance might contribute to the increased prevalence of hypertension.

Study Aims

To explore the relationship between vigilance, and systolic and diastolic blood pressure and whether this relationship would be moderated by depression severity.

Method

Timeline

Recruitment (September 2016)  Baseline (October 2016)  12-months Follow-up (January 2017)

Participants: A total of 142 individuals living in a Midwestern micropolitan city were recruited as part of a community evidence-based physical activity intervention.

Sample Characteristics:

- **Current Marital Status**
  - Single, 32%
  - Married, 51%
  - Divorced/Annulment, 11%
  - Widowed, 5%
  - Living with Partner, 1%

- **Racial/Ethnicity**
  - Non-Hispanic Whites n = 105
  - Latinos n = 35

- **Current Living Situation**
  - Own n=114 (69%)
  - Rent n=43 (25%)
  - Neither n=12 (7%)

- **Level of Education Completed**
  - 2nd-12th n=55
  - > High School n=82

- **Annual Income**
  - $0-$10,000
  - $10,001-$20,000
  - $20,001-$30,000
  - $30,001-$40,000
  - $40,001-$50,000
  - $50,001-$60,000
  - $60,001-$70,000
  - $70,001-$80,000
  - $80,001-$90,000
  - $90,001-$100,000
  - $100,001-$125,000
  - $125,001-$150,000
  - $150,001+

- **Measures:**
  - **Patient Health Questionnaire-9 (PHQ-9):**
    - Assessed participants’ depressive symptoms over the previous 2-week interval (Kroenke, Spitzer, & Williams, 2001).
    - Scale ranged from (1) Not at all to (4) Nearly every day
  - **Vigilance:**
    - Assessed participants’ anticipatory strategies/psychological predispositions used to negotiate everyday perceptions of inter-ethnic group racism (Clark, Berkert, & Flack, 2006).
    - Scale ranged from (1) Almost every day to (8) Never
  - **Blood Pressure:**
    - Resting blood pressure were obtained using standard protocols with an Omron automatic blood pressure monitor with ComFit cuff.

Results

- **Vigilance was associated with systolic blood pressure among Latinos, but not among Whites**
- **Vigilance was associated with high diastolic blood pressure among Whites, but not among Latinos**
- **Depressive Symptoms were associated with both elevated systolic and diastolic blood pressure levels among Latinos but not among Whites**

Discussion

- Vigilance was associated with increased diastolic but not systolic blood pressure among Whites.
- Vigilance was associated with increased systolic but not with diastolic blood pressure.
- These findings suggest that the interaction between vigilance and depression is a risk factor for elevated blood pressure levels among residents of a new-destination community.
- Future research should explore whether the rapid demographic shift experienced in Midwestern micropolitan cities, makes individuals hyper-vigilant to inter-ethnic group racism, placing them at an increased risk for hypertension.

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