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Borders and Blood Pressure: Understanding the Role of Acculturation in a Hypertension Diagnosis Among Hispanic Americans: 2014 California Health Interview Survey

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Objective/Background

Objective

To identify the association between acculturation and hypertension diagnosis among Hispanic-American immigrants in California in 2014

Background

- The Hispanic population is the second fastest growing ethnic group in the United States, with a total population of about **55 million people**.
- Heart disease and cancer** are the two leading causes of death, which accounts for **about 2 in every 5 deaths**.
- The CDC states that Hispanics had **24% more poorly controlled high blood pressure** than Non-Hispanic Whites
- Lack of hypertension control among Hispanics through medication use or lifestyle changes can be attributed to **social, cultural and economic concerns**.

Study Design

Data Source

Data from the **2014 California Health Interview Survey (CHIS)**, conducted by University of California Los Angeles (UCLA) Center for Health Policy Research, Public Health Institute, and California Department of Public Health.

A **random-digit dial telephone survey** of selected adults (aged 18 years or older) was interviewed in each household.

Representative of California's non-institutionalized population.

Interviews were conducted in **English or Spanish**.

Hispanic Americans (n=3,793): Mexican Americans (n=3,088); Other Hispanic (n=705)

Measures

Outcome: Self-reported hypertension (0=No vs 1= Yes)

Independent Variables: (proxy measures of acculturation)

- Years in the US (US-born, 15 years or more, less than 15 years)
- Citizenship status (US-born, Naturalization, Non-citizen)
- Spoken English level (Only English, Very well, Not well)

Control Variables: Gender, Poverty level, BMI, Smoking status, Having health insurance, Residence

Statistical Analysis

Descriptive statistics (proportion, mean)

Bivariate analysis: Chi-square test

Multivariate analysis: Logistic regression

Weighted analysis using svy from STATA version 13

Results

Table 1: Hypertension Prevalence by Race / Ethnicity

	White (n=14,694)	African Americans (n=917)	Hispanics (n=3,793)	Asian (n=2,146)	AI/AN (n=7,455)	Total (n=19,516)
Prevalence (%)	31.8	40.3	24.0	23.4	38.2	28.5
95% CI	29.7, 34.0	34.2, 46.7	21.5, 26.7	19.4, 27.9	21.7, 58.2	27.2, 29.8

Graph 1: Prevalence of hypertension by age among Hispanics, 2014 CHIS

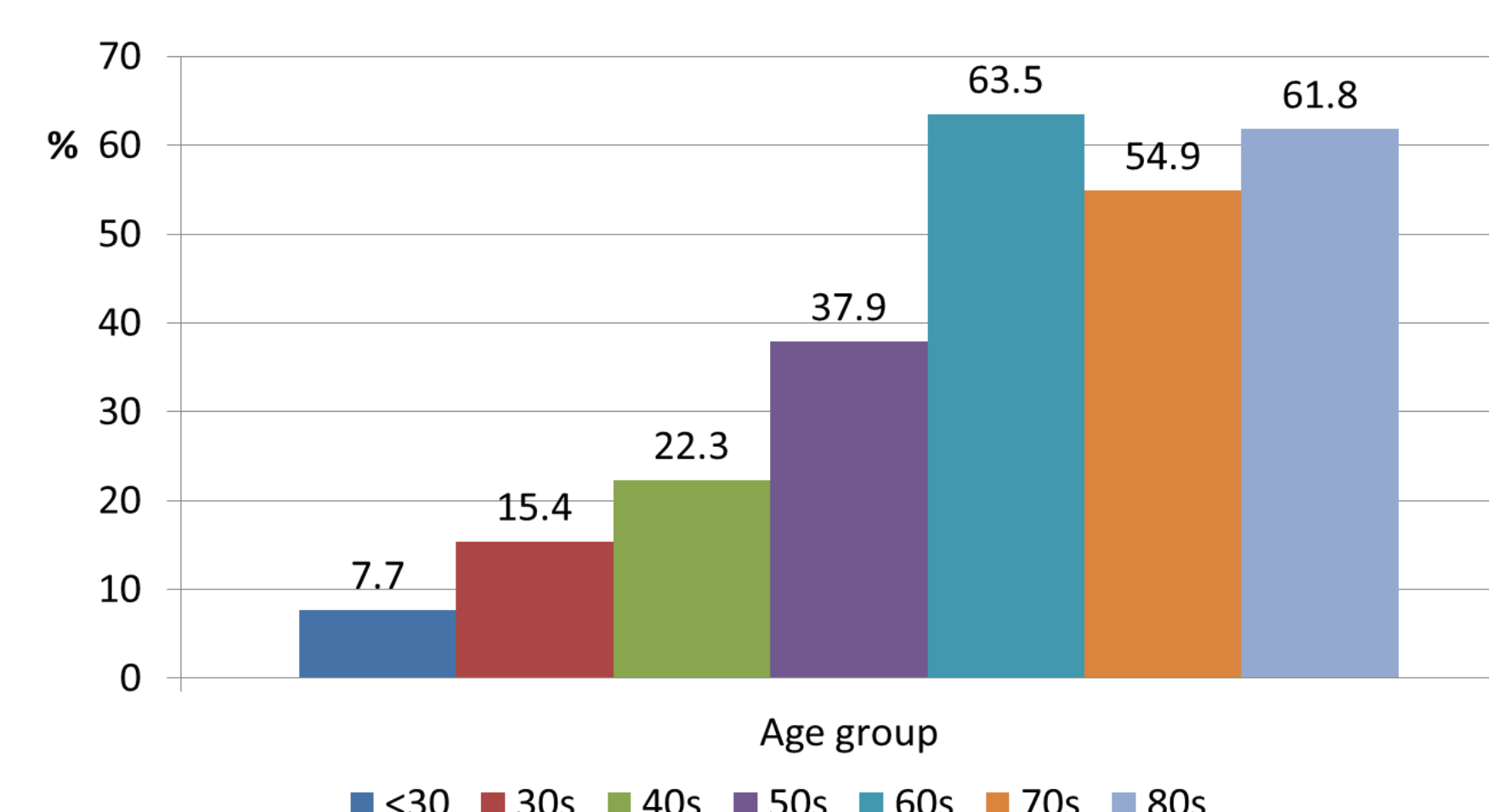


Table 2: Bivariate relationship between acculturation measures and hypertension prevalence by Hispanic Subgroup

Variables	Mexican Americans (n=3,088)		Other Hispanics (n=705)	
	% of having Hypertension (SE ^a)	p-value	% of having Hypertension (SE ^a)	p-value
Citizenship status		<0.0001		0.03
US-born	.189% (.018)		.187% (.032)	
Naturalization	.325% (.028)		.394% (.060)	
Non-citizen	.242% (.026)		.235% (.058)	
Spoken English Level		0.004		.300
Only English	.191% (.024)		.211% (.050)	
Very well	.208% (.020)		.230% (.035)	
Not well	.289% (.024)		.311% (.055)	
Years in the US		<0.0001		0.006
US born	.189% (.018)		.187% (.032)	
≥15 years	.308% (.023)		.376% (.050)	
<15 years	.173% (.035)		.176% (.057)	

Limitations

- **Self-reported data**, which introduces recall bias
- **Data is cross-sectional**, lacking the ability to make assumptions related to causation

Results

Table 3: Multivariate logistic regression analysis of hypertension by Hispanic Subgroup

	Mexican Americans OR (95% CI ^a)	Other Hispanics OR (95% CI ^a)
Gender		
Male	1.00	1.00
Female	1.01 (0.75, 1.37)	0.83 (0.41, 1.69)
Poverty level		
0-99% FPL	1.00	1.00
100-299% FPL	1.23 (0.85, 1.42)	0.45 (0.21, 0.96)*
300% FPL	0.93 (0.61, 1.94)	0.58 (0.27, 1.26)
BMI level		
Normal	1.00	1.00
Overweight	1.45 (0.94, 2.24)	1.04 (0.49, 2.20)
Obese	2.78 (1.76, 4.39)**	2.50 (1.15, 5.40)
Smoking status		
No smoker	1.00	1.00
Former	1.29 (0.71, 2.35)	0.68 (0.18, 2.64)
Current smoker	1.88 (1.38, 2.56)**	0.68 (0.33, 1.42)
Having health insurance		
No	1.00	1.00
Yes	0.60 (0.39, 0.94)*	0.53 (0.18, 1.59)
Residence		
Urban	1.00	1.00
Rural	1.01 (0.74, 1.60)	1.34 (0.57, 3.16)
Acculturation		
US-born	1.00	1.00
≥15 years	1.69 (1.22, 2.74)**	3.22 (1.51, 6.91)**
<15 years	0.99 (0.57, 1.74)	1.05 (0.38, 2.91)

Discussion & Conclusion

Discussion

- Acculturation is an important predictor of hypertension diagnoses among Hispanic-American immigrants.
- Those Hispanics who stayed **longer than 15 years** had higher likelihood of being diagnosed with hypertension than those who stayed less than 15 years and those that were US born.

Conclusion

- This study can help medical providers better understand specific health care needs of Hispanic Americans and the effects of acculturation within immigrants.
- This study suggests medical practitioners to develop culturally sensitive education programs to increase awareness of hypertension in underserved Hispanic American populations.