Contributors to self-reported health in a racially and ethnically diverse population: focus on Hispanics

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ABSTRACT

Purpose: To understand if Hispanics report health differently than other racial and ethnic groups after controlling for demographics and risk factors for poor health.

Methods: The sample ($N = 5502$) included 3201 women, 1767 black, 1859 white, and 1876 Hispanic subjects from the Boston Area Community Health Survey, a population-based survey of English- and Spanish-speaking residents of Boston, Massachusetts, United States, aged 30—79 years in 2002—2005. Multiple logistic regression models were used to examine the association between race/ethnicity (including interview language for Hispanics) and fair/poor self-reported health (F/P SRH) adjusting for gender, age, socioeconomic status, depression, nativity, and comorbidities.

Results: Compared with whites, Hispanics interviewed in Spanish were seven times as likely to report F/P SRH (odds ratio, 7.7; 95% confidence interval, 4.9—12.2) after adjusting for potential confounders and those interviewed in English were twice as likely. In analyses stratified by depression and nativity, we observed stronger associations with Hispanic ethnicity in immigrants and nondepressed individuals interviewed in Spanish.

Conclusions: Increased odds of F/P SRH persisted in the Hispanic group even when accounting for interview language and controlling for socioeconomic status, age, depression, and nativity, with interview language mitigating the association. These findings have methodological implications for epidemiologists using SRH across diverse populations.

Introduction

Self-reported health (SRH) is a ubiquitous measure used across the spectrum of health research from clinical to epidemiologic studies. Its wide acceptance as a useful tool for assessing health is because of its ability to predict mortality [1—4] and morbidity [4] and its ease of use as a single-question measure. Yet there is also evidence of significant variability in SRH across racial and ethnic groups [5—10]. Specifically, Hispanic populations have repeatedly shown a tendency to report worse SRH compared with other racial and ethnic groups [6,11]. Various characteristics have been shown to affect this phenomenon, including language, immigration, and acculturation [6,12—18]. Many prior studies on racial and ethnic differences in SRH have focused on older subjects, limited comorbid assessments to a single condition, or focused on two racial groups.

Very few assessments of SRH have focused on number of health conditions [9,15] to provide additional control for SRH disparities. Furthermore, most studies have used national data, which include predominantly Mexican populations, thus limiting the generalizability of Hispanic results.

The objective of the current analysis was to understand if Hispanics report health differently than other racial and ethnic groups after controlling for interview language and risk factors for poor health, such as age, socioeconomic status (SES), nativity, depression, and number of comorbidities. The Boston Area Community Health (BACH) Survey provided a unique opportunity to assess this question in a diverse Hispanic population with the representation from five Hispanic subgroups, as well as to compare Hispanics with both black and white individuals.

Methods

The BACH Survey is a population-based and epidemiologic cohort study conducted among 5502 men and women aged 30—79

years residing in Boston, Massachusetts. A multistage and stratified cluster sampling design was used to recruit approximately equal numbers of persons in prespecified groups defined according to age (30–39, 40–49, 50–59, and 60–79 years), race/ethnicity (black, Hispanic, and white), and gender. This analysis used baseline data collected from April 2002 to June 2005 during the 2-hour in-person interviews conducted by bilingual interviewers. Interviews were completed for 63.3% of eligible persons, with a resulting study sample of 2301 men and 3201 women, and 1767 black, 1876 Hispanic, and 1859 white subjects. The Hispanic sample is predominantly Puerto Rican ($N = 601$), Dominican ($N = 521$), Central American ($N = 336$), and South American ($N = 247$). All subjects provided written informed consent, and the protocols and procedures were approved by New England Research Institutes' Institutional Review Board [19].

SRH was assessed using the general health question of the 12-Item Short Form Health Survey version 1 [20]: "In general, would you say your health is" excellent, very good, good, fair, or poor. Responses were dichotomized into fair/poor versus good/very good/excellent.

Racial and ethnic groups were mutually exclusive and based on self-report as black, white, or Hispanic [21]. If a participant identified as Hispanic or any other race, he or she was included only in the Hispanic group. Among Hispanics only, race and ethnicity was further defined by the language of interview: Hispanics interviewed in Spanish (HIS) and Hispanics interviewed in English (HIE). It was infeasible to categorize white and black participants by the language of interview as more than 99% were interviewed in English. Nativity was based on the location of birth (United States vs. not United States). SES categories of low, middle, and high were created using standardized income (assessed in $5000 increments up to $10,000 and $10,000 increments up to $100,000) and education variables (assessed as total number of years of school completed) for the Northeastern United States [22]. Marital status was classified as married or living with a partner, single (never married), or other. Depression was defined as reporting at least five of the eight symptoms in the Center for Epidemiologic Studies Depression Scale [23].

Comorbidities were assessed by the question "Have you ever been told by a health care provider that you have or had … ?" Conditions of interest (arthritis, asthma, chronic lung disease, diabetes [type 1 and 2], high blood pressure, and myocardial infarction) were selected based on their potential impact on quality of life, chronicity, prevalence in the overall sample (see Table 1), and proportion currently receiving treatment for that condition (range, 36%–80%). All these conditions have been either shown to negatively impact SRH [24–26] or used commonly in other studies assessing SRH in patient populations [9,27,28]. We used a variable based on the number of comorbidities in this analysis. We do not presume that each of these conditions has the same impact on the perception of health but believe that these conditions, especially

Table 1
Patient characteristics by race/ethnicity[*]

Independent variable	Percent of respondents within category			Overall ($N = 5502$)	P
	Black ($N = 1767$)	Hispanic ($N = 1876$)	White ($N = 1859$)		
SRH					<.001
Fair/poor	20.7	33.9	10.7	16.5	
Excellent/very good/good	79.3	66.1	89.3	83.5	
Nativity					<.001
U.S. born	78.6	14.5	90.1	77.0	
Foreign born	21.4	85.5	9.9	23.0	
Language of interview					<.001
English	99.7	35.0	99.8	91.2	
Spanish	0.3	65.0	0.2	8.8	
SES					<.001
Low	41.1	61.1	14.0	27.6	
Medium	49.5	30.6	49.7	47.1	
High	9.4	8.3	36.3	25.3	
Marital status					<.001
Married/living with partner	39.0	53.9	54.2	50.0	
Single, never married	33.0	19.4	27.5	27.9	
Other	28.1	26.7	18.3	22.1	
Gender					.08
Male	44.4	47.0	49.7	47.9	
Female	55.6	53.0	50.3	52.1	
Age group (y)					<.001
30–39	33.2	44.7	34.0	35.2	
40–49	27.9	28.2	23.1	25.1	
50–59	19.8	15.4	18.0	18.1	
60–69	11.7	7.7	14.8	13.1	
70–79	7.3	3.9	10.1	8.5	
Depression status					<.001
Yes	21.1	27.1	13.1	17.1	
No	78.9	72.9	86.9	82.9	
Comorbidity category					.642
0–3	96.7	97.1	97.4	97.2	
4+	3.3	2.9	2.6	2.8	
Comorbidity prevalence					
Arthritis	24.9	18.3	23.9	23.5	.002
Asthma	19.3	17.0	15.4	16.7	.112
Chronic lung disease	5.6	6.7	7.4	6.8	.262
Diabetes (type 1 or 2)	12.8	11.5	7.5	9.4	<.001
High blood pressure	36.6	24.8	23.6	27.3	<.001
Myocardial infarction	4.3	3.0	3.5	3.7	.360

[*] These data were weighted to the population of Boston as described in the Methods section.