English proficiency and physicians' recommendation of Pap smears among Hispanics

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Abstract

Background: Hispanics have one of the highest incidence rates of cervical cancer. Physician recommendation is one of the most important cues to cancer screening; however, low English proficiency among Hispanics may hinder health providers' recommendation of Pap smears. *Methods*: Analysis of data from the 2000 National Health Interview Survey. All Hispanic women, age ≥18, without a Pap smear in the past 3 years or ever and who visited a health care provider in the past year were included. The main outcome was receipt of Pap smear recommendation by a health care provider. *Results*: A total of 314 Hispanic women were included in the analysis, 44.9% were highly English proficient. Only 7.7% of low English proficient Hispanics not up-to-date in cancer screening reported a recommendation for a Pap smear as compared to 14.3% of highly proficient Hispanics. After adjusting for sociodemographics and health access and utilization factors, highly English proficient Hispanics were more than two times as likely to report receiving a recommendation for a Pap smear as compared to the less proficient (aOR 2.2, 95% CI 1.1–4.5). *Conclusions*: Low English language proficiency is a barrier to receive a recommendation for Pap smear among Hispanic women not up-to-date with cervical cancer screening. Further research is needed to explore specific mechanisms responsible for the low recommendation rates and to assess the impact of interpreters or Spanish-speaking providers on Pap smear recommendation rates.
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1. Introduction

Hispanic women continue to be disproportionately affected by cervical cancer despite continued improvement in national screening rates [1]. According to data from the Surveillance, Epidemiology, and End Results (SEER) Program, Hispanic women have a cervical cancer age-adjusted incidence rate (16.9 per 100,000) that is almost two times that of White women (9.2 per 100,000) [1]. Despite the proven value of Pap smear screening on cervical cancer survival rates [2], Hispanic women have one of the lowest Pap smear use rates [3].

Hispanic women with limited English proficiency or low acculturation are the least likely to receive cervical cancer screening [4–7]. While access to health care and socio-demographic factors play a key role on Pap smear use [8,9], physician recommendation is a very important cue to cancer screening among women of all income and demographic groups [10–13] Yet, physicians are not recommending screening to all eligible patients [13,14]. Forgetfulness, lack of time and competing co-morbidities has been cited as reasons for this deficiency [15,16]. Low English proficient patients may impose additional barriers, such as poor communication and time constraints, on health care providers to recommend screening. Previous studies document that physicians perceive limited English proficiency patients as more challenging and time consuming [17,18]; however, no studies have assessed the impact of patients' English proficiency on physicians' recommendation of Pap smears.

Hispanics now represent the largest ethnic minority in the United States and, by the year 2050, they will

constitute 25% of the total U.S. population [19]. Hispanics are also the group with highest proportion of individuals with low English proficiency [20]. Therefore, addressing factors that hinder Pap smear use in this sizable group with high cervical cancer burden has substantial public health relevance. In this study, we used data from a nationally representative sample to assess the impact of patients' English language proficiency on health care providers' recommendation of Pap smears among Hispanics.

2. Methods

2.1. Data source and study population

We analyzed data from the 2000 National Health Interview Survey (NHIS). The NHIS is an in-person household survey of the civilian, non-institutionalized U.S. population conducted by Census Bureau personnel [21]. It is conducted in English, Spanish and other languages according to interviewee's preference and proficiency. In the year 2000, the sample included 32,374 adults; the final response rate of 72.1%. The NHIS stratified sampling design uses geographically based primary sampling units, ensuring a national probability sample [21].

We included all Hispanic women, age 18 years or older without a Pap smear in the past 3 years or ever who reported having a doctor's office visit in the past year. We excluded

women with a hysterectomy. Therefore, our analysis included only women that according to generally accepted guidelines [22], required a Pap smear at the time they saw the health care provider.

2.2. Variables of interest

We constructed a two step logistic regression model with self-reported health care provider recommendation of Pap smear during the past year as the main outcome. Our main independent variable was English language proficiency, which was assessed by the question: in general, what language do you speak? Women who responded that only or mostly English or English and Spanish about the same were included in the high proficiency category. Women speaking only or mostly Spanish constituted the low English proficiency category. To assess the impact of sociodemographic factors alone, we adjusted for age (continuous variable), educational attainment (less than high school/high school or more) and poverty level (less than US$ 20,000/US$ 20,000 or more). In a second step, we also adjusted for health care access and utilization factors such as having regular source of care (yes/no), health insurance status (any coverage/no insurance), number of office visits in the past year (numerical), self-reported health status (excellent, very good or good/fair or poor) and type of health care provider seen (at least one visit to an internists, family physician or general practitioners or visits to other providers: physician assistants, nurse practitioners, sub-specialists).

Table 1
Sample characteristics of women aged 18 and older without a hysterectomy who are not up-to-date with screening guidelines

	Entire sample (n = 314)	Hispanic high EP (n = 135)	Hispanic low EP (n = 179)
Age (mean ± S.E.)	36.3 ± 1.32	30.6 ± 1.22	40.9 ± 2.26
Married (%)	36.6	29.3	42.5
Education (%)			
Less than high school	41.7	21.5	58.2
High school or more	58.3	78.5	41.8
Annual family income (%)			
Less than US$ 20,000	45.8	33.9	55.4
US$ 20,000 or above	54.2	66.1	44.6
Has a usual source of care (%)	78.1	87.8	70.1
Has health insurance coverage (%)	57.6	69.3	48.1
Self-reported health status (%)			
Excellent to good	84.6	89.1	80.9
Fair to poor	15.4	10.9	19.1
Total no. of office visits in the past 12 months (%)			
1 Visit	23.0	22.7	23.3
2–3 Visits	31.1	34.6	28.0
4–5 Visits	20.1	20.3	19.9
>6 Visits	25.8	22.4	28.9
Seen or talked to a general doctor in the past 12 months (%)	66.7	70.0	64.0

S.E. = standard error; EP = English proficiency; sample sizes reflect the number of respondents; however, the percentages were obtained using the full sample weight, which yields population estimates for the U.S.