Acculturation and Cancer Screening Among Latinas: Results From the National Health Interview Survey

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ABSTRACT

Background: Although early detection of breast and cervical cancer is one of the most effective means of assuring timely treatment and survival, the cultural hypothesis proposes that traditional norms, values, and beliefs deter Latinas from being screened. Purpose: We assessed whether acculturation is associated with Latinas’ receipt of a recent mammogram, clinical breast examination (CBE), and Papanicolaou (Pap) test, and the contribution of acculturation to screening after adjusting for sociodemographic variables. Methods: We used data from the Health Promotion and Disease Prevention Supplement of the 1991 National Health Interview Survey. The sample for analyses of Pap test utilization included 1,370 Latinas age 18 and over, and for mammography and CBE, 525 Latina women age 40 and over. Results: Acculturation was associated with a higher likelihood of having had a recent mammogram, but this effect was not significant when controlling for sociodemographic factors. In both adjusted and unadjusted analyses, acculturation did not predict recent Pap smears. Acculturation was associated with greater likelihood of recent CBE, controlling for sociodemographic factors. Conclusions: The association between acculturation and cancer screening is inconsistent. Theoretical models are needed to explain the mechanisms involved in the association (or lack thereof) between acculturation and screening.


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INTRODUCTION

The United States Department of Health and Human Services identified cancer screening and management as one of the six target categories in the Initiative to Eliminate Health Disparities (1). Breast cancer is the primary cause of cancer death among Latinas in the United States. Latina women have a lower 5-year survival rate for breast cancer than White women (76% vs. 85%), despite lower incidence and mortality rates (2). For cervical cancer, although 5-year survival rates are similar, incidence among Latinas is twice that of non-Latinas (16.3 vs. 7.8 per 100,000 population), and mortality is about 40% higher (3.4 vs. 2.5 deaths per 100,000) (2.3). Because early detection of cancer is one of the most effective means of assuring timely treatment and survival, screening differences between Latina and non-Latina White women may contribute to later stage diagnoses (4–6) and breast and cervical cancer disparities.

Hypotheses on the factors that promote and create barriers to screening among Latina women can be categorized as “socioeconomic/structural” or “cultural” explanations. The former hypothesize that Latina women’s relatively low socioeconomic status (SES) and structural factors, such as lack of access to health care, create obstacles to screening (7). This explanation is supported by recent evidence that Latino ethnicity does not predict screening. Instead, factors confounded with ethnicity, such as SES, health insurance, and access to and quality of health care (e.g., having a regular health care provider) predict screening behavior (7–9).

Cultural explanations, however, propose that Latino cultural values and behavioral norms deter women from being screened for breast and cervical cancer. But there is little consensus on how to measure and assess these norms. Examples of cultural values and beliefs described in the literature include (among others) traditional norms about modesty, leading to embarrassment about exposing intimate parts of the body (10); attitudes about the family and other cultural traditions (11); and “fatalistic” orientations or attitudes, such as the belief that little can be done to change the course of one’s fate (12).

Perhaps because of the difficulty in assessing Latino cultural norms, especially as they pertain to breast and cervical cancer, the cultural hypothesis typically is tested by examining the effect of acculturation on screening. Acculturation, broadly defined, is the process by which immigrants adopt the attitudes, values, customs, beliefs, and behaviors of a new culture (13). According to the cultural hypothesis, if traditional Latino cultural norms, values, and beliefs deter women from being screened, then greater acculturation would increase screening levels.

Acculturation, however, is associated with age and higher SES (11,14,15). Therefore, it is important to consider the effects
of acculturation on cancer screening after adjusting for potential sociodemographic confounders. Previous studies employing these methods generated mixed results. Consistent with the hypothesis that Latino culture affects screening behavior, in some studies lower acculturation is associated with lower odds of receiving breast and cervical cancer screening controlling for socioeconomic and structural factors (e.g., education, access to health care) (15,16). Other studies, however, report no associations between acculturation and rates of cancer screening when controlling for sociodemographic factors and other confounders (6,17–20), suggesting that SES and structural factors, rather than cultural factors, explain screening behavior.

To date, there have been few systematic tests of the structural versus cultural hypotheses. Therefore, the purpose of this study was to assess whether acculturation is associated with the receipt of recent mammography, clinical breast examination (CBE), and Pap test screening, using a nationally representative sample of Latina women in the United States. We also examined the contribution of acculturation to screening after adjusting for sociodemographic variables. According to the cultural hypothesis, greater acculturation should predict a higher likelihood of screening, even when controlling for potential confounders (age and SES). If, however, sociodemographic characteristics account for the observed association between acculturation and screening, the structural hypothesis would be supported.

**METHOD**

**Data Source**

We analyzed data from the 1991 Health Promotion and Disease Prevention (HPDP) Supplement of the National Health Interview Survey (NHIS) (21). The NHIS is a nationwide, personal interview household survey conducted annually by the National Center for Health Statistics (NCHS). It contains a representative sample of the civilian, noninstitutionalized population in the United States. The NHIS employs a complex multistage design with oversampling for targeted subpopulations, in particular, ethnic minority populations. The 1991 NHIS HPDP Supplement provided information on various health behaviors, including cancer screening. Although the questionnaire was in English, bilingual interviewers were used by the NCHS to minimize language barriers against completing the survey. Bilingual interviewers were assigned to areas that are known to be predominantly Spanish speaking. To assure standardization, interviewers were provided with a Spanish translation of core questions in the NHIS interview. In cases where respondents spoke only Spanish and the interviewer did not, however, other household members or neighbors were used as interpreters. Although interpreters were not subject to the intensive training provided to NCHS interviewers, strict guidelines were followed when an interpreter was used. Interviewers provided explicit instructions to the interpreter concerning proper procedures for serving as a translator, as well as on the use of the Spanish translation guide. The 1991 NHIS response rate was 95.7% (of the 4.3% noninterviews, 2.7% was due to respondent refusal, and the remaining 1.6% was mainly due to the inability to find an eligible respondent at home after repeated attempts) (21).

The total sample for the 1991 NHIS HPDP consisted of 43,732 respondents. To eliminate the potentially confounding effects of race, only White Latinas were included in the analyses for this study. Latinos are an ethnic group and may be Black, Asian, or of any other census-defined race. There were 431 Latina women excluded from the study based on this criterion. (We performed the identical analyses using the full sample of Latina women, and results remained essentially unchanged.) Race and ethnicity were based on respondents’ self-reported information. Women who responded that they were White and indicated their national origin or ancestry as Puerto Rican, Cuban, Mexican or Mexican, Mexican American, Chicano, Central or South American, or Other Hispanic were included in this study. Based on these criteria, the total sample size in the NHIS was 1,389 Latina women (53.2% Mexican American, 9.5% Puerto Rican, 9.2% Cuban, 27.7% Central or South American or Other Latina). We excluded 19 women with missing data on their length of residence in the United States; therefore, in this study, the sample consisted of 1,370 Latina women age 18 or older. Analyses on Pap smear screening was based on the full sample. Consistent with American Cancer Society guidelines in 1991 (22), breast cancer screening questions were only asked of women age 40 or older. Therefore, analyses of mammograms and CBEs included 525 Latinas.

**Measures**

*Cancer screening tests.* Outcome measures included recent receipt of three tests: Pap smear, CBE, and mammogram. In the NHIS, all female respondents age 18 and older were asked, “During the past 12 months, did you have a Pap smear or Pap test to check for cancer of the cervix?” For breast cancer screening, women age 40 and older were asked two questions: “During the past 12 months, have you had a breast physical exam in which a medical doctor or health professional checked your breasts for lumps?” and “During the past 2 years have you had a mammogram?” These time intervals were consistent with screening recommendations that were current in 1991 (22). Each of these three outcomes was coded as a dichotomous variable (0 = no, 1 = yes).

**Acculturation.** Nativity status/length of time residing in the United States was used as a proxy measure of acculturation. These are standard indexes for assessing acculturation in relation to screening (9,19,20,23). Length of residence and nativity or generation status are frequently used indexes of acculturation and show high correlations with other scales, such as language-based measures (rs range from .69 to .79) (24). In the NHIS, foreign-born respondents were asked how long they lived in the United States, using a 5-category response of 1 (less than one year), 2 (1 year to less than 5 years), 3 (5 years to less than 10 years), 4 (10 years to less than 15 years), and 5

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1Unfortunately, the 1991 NHIS HPDP public use data set does not include a variable to identify interviews conducted in Spanish with a bilingual interviewer or those that employed a family member or neighbor as interpreters.