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Acculturation and Orofacial Pain Among Hispanic Adults

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Abstract: **This study examined the associations between acculturation and orofacial pain and healthcare among Hispanic adults. Understanding the effects of acculturation on Hispanic oral health may improve understanding of oral health disparities in the United States. Data were collected from 911 Hispanic adults reporting tooth pain and painful oral sores who were part of a larger study of South Florida residents conducted using random-digit dialing methodology. The survey was conducted in Spanish or English by bilingual interviewers per the choice of each respondent. Greater use of the Spanish language was associated with disparities in healthcare visits for orofacial pain, not having a usual dentist, having greater pain, increased difficulty eating and sleeping, and more depression. Respondents' and their parents' nativity (families that had been in the United States longer) and those identifying more closely to Hispanic culture were also predictive of several of the outcomes. Gender, financial status, and age, independent of acculturation, were also associated with orofacial pain, accessing health care, and pain-related loss of functioning among Hispanics. The data support the hypothesis that Hispanics with less acculturation are less able to access needed oral health care. This study highlights the need for outreach programs targeting recent Hispanic immigrants focusing on oral health care.**

Perspective: ***This study found that lower levels of acculturation, particularly less frequent use of English, were associated with greater oral pain and depression for Hispanics adults. This emphasizes the need to provide Hispanic patients with information in Spanish and the importance of having bilingual materials and staff in dental clinics.***

Key words: *Disparities, orofacial pain, dental pain, Hispanic, acculturation, depression, health care use, sleep disturbance.*

The Surgeon General's Report on Oral Health has called for a better understanding of factors associated with oral health disparities among underserved populations in the United States, including Hispanics.[54] This aim is supported by data from US national representative samples that indicate Hispanics have greater decrements in oral health compared with whites across a range of oral health markers.[30,50,51]

Acculturation, the process through which individuals from one ethnic group adopt the beliefs and behaviors of another group,[58] is one way to examine potentially meaningful differences within an ethnic group. Adaptation to the mainstream culture often leads to greater access and utilization of healthcare services, including oral health care, among Hispanic ethnic groups in the United States.[30] This variability in the use of oral health care is due in part to changing values, lifestyles, behav-

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iors, and financial status.[29,33] Barriers to accessing oral health services among Hispanics include language differences, unfamiliarity with a foreign healthcare system, trust of traditional oral health care providers, and lack of insurance/limited financial resources.[9,25,33,50] Logically, we would expect these reduced levels of oral health care to be associated with increased disease. Only 2 studies have reported on acculturation and oral health care using samples of Mexican Americans, Cuban Americans, and Puerto Ricans that participated in the Hispanic Health and Nutrition Examination Survey (HHANES) from 1982 to 1984. Solis et al[50] found that Cuban and Mexican American males who were more acculturated were more likely to use preventive healthcare, and Stewart et al[51] found that the use of Spanish language (acculturation) was associated with a lower probability of having a dental visit in the past 5 years.

Pain is a common symptom from orofacial disease and is strongly associated with perceived need for dental care.[13,14] The impact of oral pain is substantial. Locker and Grushka[37] assessed the effects associated with suffering from oral pain. Of respondents with oral pain in the past month, 70% worried about their oral health, 44% consulted a doctor, 30% avoided eating certain foods, 29% took medications, and 14% experienced sleep difficulty. Murray et al[40] found that patients presenting at a dental research clinic experiencing orofacial pain reported 4 times the functional problems, such as difficulty chewing foods, and a 9-fold increase in reports of depression than patients with oral symptoms not associated with pain. We have been unable to identify studies linking acculturation to orofacial pain. However, a recent paper has identified an association between acculturation score and widespread pain.[41]

This study is unique in that it tested for associations between orofacial pain and 3 different dimensions of acculturation: Language use, nativity, and ethnic identification. The focus of this study is on Hispanics in South Florida, a group of Americans whose oral health is poorly studied. Collecting data from a single community allows closer examination of within-group differences which is important to future considerations for research and public health policy. This study tested the hypothesis that acculturation is associated with orofacial pain and pain-related loss of physical and emotional functioning, as well as several variables that reflect access to oral healthcare within a Hispanic sample.

Materials and Methods

Sampling Methods

The data for this study were collected as part of larger study of community-dwelling adults in Broward and Miami-Dade counties in South Florida on orofacial pain and healthcare decisions among differing racial/ethnic groups. Eight strata were defined that considered race/ethnic concentration (predominately Hispanic, non-Hispanic black, non-Hispanic white, and mixed) and income (above and below $35K annual income). At the beginning of data collection, telephone numbers were generated using the GENESYS telephone bank database system (Genesys Conferencing, Montpellier, France) that reflected the percentage of the total population of each stratum. Each month, additional phone numbers were generated and released with small adjustments made to maintain a rate of completed interviews for each stratum consistent with the target goals. Small adjustments were made each month to maintain a rate of completed interviews for each stratum consistent with the target goals. As the rate of business or government numbers, nonworking and disconnected numbers, and answering machines were different for each strata, this allowed us to maintain even completion rates rather than have to disqualify interested respondents because a certain race and ethnicity quota for a certain strata was full. Using this strategy, a total of 70,068 telephone numbers were generated and resulted in 25,548 households contacted.

The potential participants were contacted by trained interviewers employed by the University of Florida's Bureau of Economic and Business Research Survey Program. A sample of 10,341 respondents answered questions about race, ethnicity, sex, and age and were screened for several targeted pain symptoms. Of the 1341 Hispanics who were eligible and participated in this study, the 911 that reported tooth pain and or painful oral sores are included in this study (530 reported tooth pain, 165 reported painful oral sores, and 216 reported both). The remaining 430 Hispanic adults reported other pain complaints that are more likely to be seen by a physician.

Criteria for study inclusion included residing in one of the two counties, English/Spanish as first language, capable of answering questions, race/ethnic background criteria, 18+ years of age, and meeting pain symptom criteria. Respondents were given the choice to take the survey in English or Spanish. Translation of the survey instruments into Spanish was accomplished by including several persons from differing Hispanic subgroups to reduce error from the varying dialects in the Spanish-speaking world. This project was approved by the institutional review board at the University of Florida, and informed consent was obtained from the participants.

It is acknowledged that there are limitations to data collection using telephone interviews. These include issues of sampling that involve the differential accessibility of a telephone in each home across socioeconomic strata and the potential for difficulty ensuring the objectives of each question and subsequent responses are clearly understood. There is evidence that the effectiveness of telephone interviewing is improved among populations with lower levels of income and education when the survey is administered in the interviewee's native language.[38] Gilbert et al[21] evaluated bias introduced into an oral health study by limiting a sample to households with telephones or resulting from using only listed telephone numbers. They found the group most likely to be excluded was poor, younger males; however, they concluded only minimal bias was introduced by either of these factors.