

Racial and Ethnic Disparities: Keeping Current Seminar Series

Mental Health, Acculturation and Cancer Screening among Hispanics

Wednesday, June 2nd from 12:00-1:00 pm
Trustees Conference Room (Bulfinch 225A), MGH



Lina Pabon-Nau,
MD, MPH.

Hispanics are the fastest growing minority in the United States. In this community, cancer is the leading cause of death. High rates of anxiety and depression, due in part to the acculturation process, can affect the likelihood of cancer screening. In this seminar, **Lina Pabon-Nau, MD, MPH**, the current Aetna/DSC HealthCare Disparities Fellow, will discuss her current work looking at **anxiety and depression and how they affect cancer screening in Hispanics of different levels of acculturation**. The discussion will be followed by a commentary by **Lidia Schapira, MD**, Oncologist at the Gillette Center at MGH and Assistant Professor at Harvard Medical School.



Effect of Anxiety or Depression on Cancer Screening among Hispanic Immigrants by Years in the US

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Structure

- Overall background on Hispanics/Latinos
- Hispanics and Cancer
- Hispanics and Mental Health (MH)
- **Current study: How does MH impact cancer screening in Hispanics?**

Hypothesis

Methods

Results

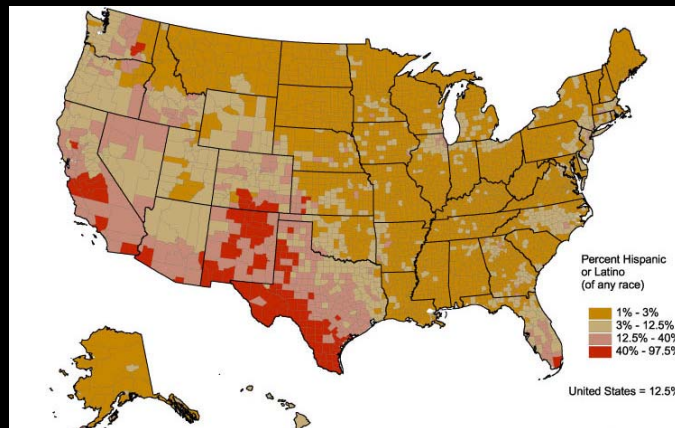
Conclusions

Background

- Hispanics are the largest and fastest growing ethnic group in the United States
- 45.4 million Hispanics/ Latinos live in the US (15% of the population)

U.S. Census Bureau, 2006-2008 American Community Survey

Hispanic/Latino population



US Census Bureau, Census of Population and Housing 2000

Hispanics are a heterogeneous group

- Differences in the political and social history of their country of origin
- Different levels of acculturation
 - US or Foreign born
 - Years in the US
 - Language proficiency
 - Citizenship
 - Assimilation of American lifestyle

Disparities in Hispanic Health

- Hispanics generally have lower mortality rates but higher morbidity rates compared with the overall US population.
 - “Healthy migrant hypothesis”
 - “Salmon bias hypothesis”
 - True genetic and/or cultural protective factors
- Compared to Non-Hispanic Whites (NHW) less likely to have health-care coverage (40% versus 76%)

Office of Minority Health Disparities, CDC 2009

Reported Barriers to Quality Care

- Lack of health insurance
- Limited English proficiency
- Immigration status
- Discrimination due to race/ethnicity

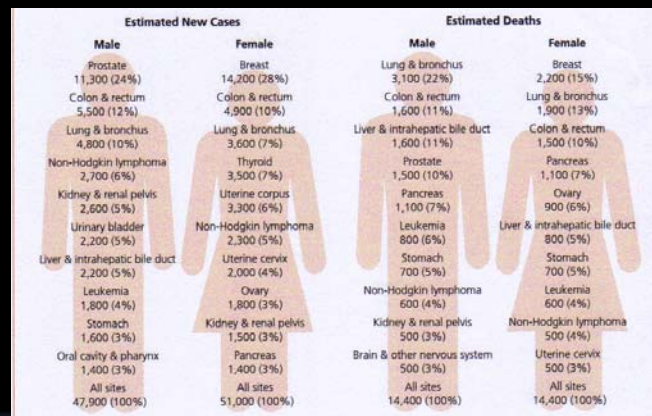
Pew Hispanic Center, 2008

Cancer

- Cancer is the second leading cause of death among Hispanics, responsible for 20% of overall deaths
- Hispanics have higher rates of cancers related to infections (stomach, liver, and cervix)
- Higher incidence of cancer among US born compared to foreign born counterparts

American Cancer Society, 2009

Leading Sites of New Cancer Cases and Deaths among Hispanics, 2009



American Cancer Society, 2009

Cancer Incidence and Mortality Rates: Hispanics vs. Non-Hispanic Whites, 2002- 2006

	Incidence						Mortality					
	Male			Female			Male			Female		
	Hispanic	Non-Hispanic White	Ratio ^a	Hispanic	Non-Hispanic White	Ratio ^a	Hispanic	Non-Hispanic White	Ratio ^a	Hispanic	Non-Hispanic White	Ratio ^a
All sites	430.3	562.1	0.8	326.8	429.5	0.8	155.2	231.5	0.7	104.0	160.7	0.6
Prostate	131.1	148.2	0.9	-	-	-	19.8	23.8	0.8	-	-	-
Female breast	-	-	-	90.2	126.9	0.7	-	-	-	15.6	24.4	0.6
Colon & rectum	50.0	58.9	0.8	35.1	43.2	0.8	16.1	21.7	0.7	10.7	15.1	0.7
Lung & bronchus	49.2	89.1	0.6	26.5	59.9	0.4	34.0	72.6	0.5	14.5	44.0	0.3
Stomach	14.3	8.4	1.7	8.6	3.8	2.3	8.3	4.5	1.8	4.8	2.2	2.2
Uterine cervix	-	-	-	12.7	7.3	1.8	-	-	-	3.1	2.1	1.5
Liver ^b	15.9	7.2	2.2	6.2	2.5	2.5	11.3	6.4	1.8	5.2	2.8	1.9
Thyroid	3.8	5.4	0.7	13.8	15.1	0.9	0.6	0.5	1.2	0.6	0.5	1.3
Acute lymphocytic leukemia	2.4	1.7	1.4	1.9	1.2	1.6	0.8	0.6	1.4	0.6	0.4	1.7
Gallbladder	1.3	0.7	1.8	2.8	1.2	2.4	0.6	0.4	1.5	1.3	0.7	1.8

American Cancer Society, 2009

Cancer screening

- More likely to be diagnosed at an advanced stage of the disease when treatment may be more difficult
- Lower survival rates, even after accounting for age and stage distribution
- Least likely of the racial and ethnic groups to use preventive services such as Pap test, mammography, colonoscopy, and prostate cancer screening
- Reasons:
 - Lack of knowledge about cancer prevention
 - Embarrassment
 - Fear of a cancer diagnosis
 - Mistrust in the American healthcare system

American Cancer Society, 2006-2008

Mental Health

- Hispanics have similar or lower lifetime rates of depression compared to non-Hispanic Whites (NHW)

- National Epidemiological Survey on Alcohol and Related Conditions –NESARC

Uebelacker LA et al. Psychological Medicine. 2009; 39:591-601

- National Co morbidity Study

Breslau J et al. Psychological Medicine. 2006; 36: 57-68

- Epidemiological Catchment Area

Grant BF et al Arch Gen Psychiatry. 2004 61(12):1226-33

- Longer course of illness compared to NHW

Breslau J et al. Psychological Medicine. 2006; 36: 57-68

Limitations to this data

- Older studies ignore the effect of acculturation
 - English proficiency
 - Nativity (Foreign vs.. US born)
 - Years in the US
 - Country of origin

More recent data: NLAAS (National Latino and Asian American Study)

- Data collected from 2002 and 2003 in various languages and sampling various countries of origin
- MH increases with years in the US: 3rd generation immigrants have highest risk for mental health problems
- Downward social mobility make Hispanic immigrants three times more likely to suffer a major depressive disorder

Alegria M et al. Am J Public Health. 2007; 97 (1):68-75

Nicklett EJ et al. American Journal of Epidemiology 2009; 170:793-801

More recent data: California Health Interview Survey 2005

- Older Hispanics more likely to have mental distress than whites (24.2% vs.. 14.4%)
- Worse access to mental health compared to NWH (10.9% vs.. 23.2%)

Sorkin DH et al, JAGS 57:2311-2317, 2009

Disparities in Mental Health Treatment

- Less likely to receive care from a MH specialist
- More likely to discontinue anti-depressant medication during the first 30 days

Olfson et al. Am J Psychiatry 163: 101-108 (2006)

- Less likely to find antidepressant medication acceptable, but more likely to find counseling acceptable treatment

Cooper et al, Medical Care . 2006; 41 (4):479-489

Reported barriers to receipt of mental health services for Hispanics

- Lack of knowledge of where to seek treatment
- Lack of proximity to treatment centers
- Lack of Spanish speaking providers

Aguilar-Gaxiola et al. Psychiatric Services 53:1563-1568 (2002)

How are these topics related?

- Do symptoms related to mental health impact the rate of preventive care, particularly cancer screening?
- Does this association change with increasing years in the United States?

Specific Aims

- Examine the rates of cancer screening, anxiety and depressive symptoms among Hispanics, compared to non-Hispanic Whites
- Explore the relationship between mental health and cancer screening in the Hispanic population
- Evaluate the effect of years in the US on cancer screening and its relationship to anxiety and depression

Hypothesis

- Anxiety or depressive symptoms negatively affects rates of cancer screening among Hispanics
- Increasing years in the US positively affects rates of cancer screening among Hispanics

Methods

- California Health Interview Survey 2005 and 2007
- Random dial telephone survey conducted in English and Spanish
- Response rate 55-60%
- 20,714 foreign born Hispanic adults (18-85years old)

Methods

- 5 Binary Outcomes: Did participant receive screening (Yes/No)?
 - Colon
 - Breast
 - Cervical
 - Prostate

- Main predictor
 - Anxiety or depressive symptoms
 - “During the past 30 days...how often did you feel nervous?”
 - “During the past 30 days...how often did you feel depressed?”
 - All/Most/Some/A little/None dichotomized to Any symptom/none

- Covariates
 - Age, gender, education, poverty level, employment insurance, usual place of care, language proficiency, YEARS IN US

Statistical Analysis

- Bivariate analysis using Chi-square and t-tests to compare demographic differences among Hispanics by years in the US

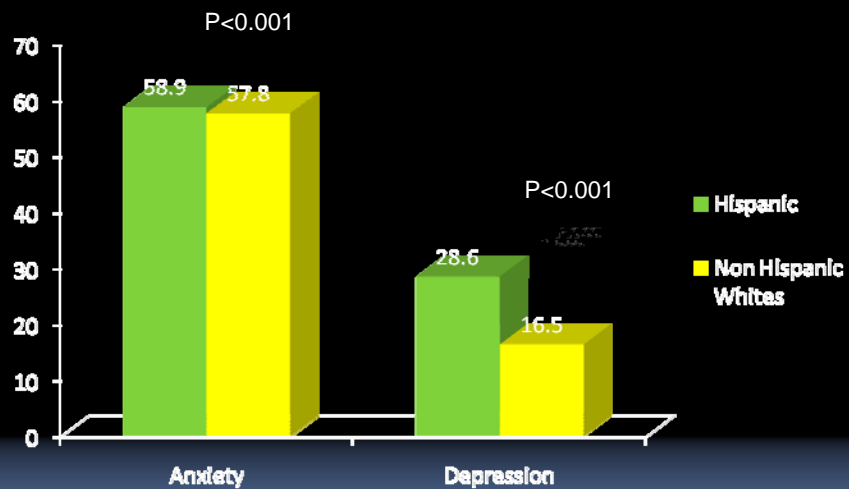
- Multivariable logistic regression models with cancer screening as binary outcome, adjusting for demographics, SES, acculturation variables

- SAS-callable SUDAAN

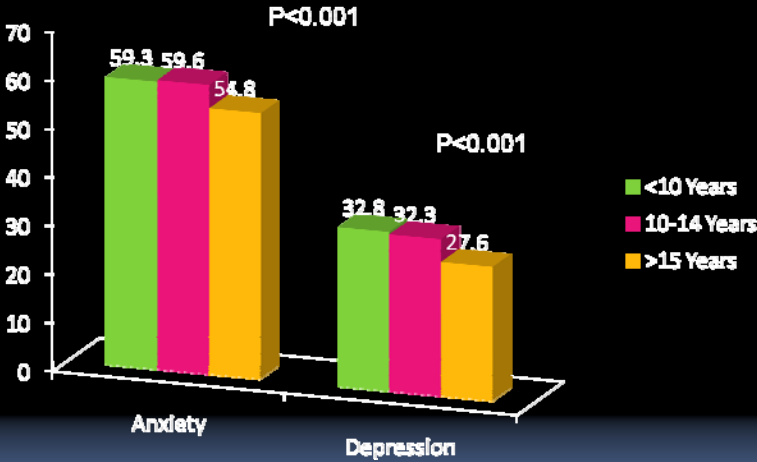
Demographics of Hispanics by Years in US

	<10 YEARS	10-14YEARS	≥15YEARS	p value
n	4645	3668	12401	-
Age	34.6 ±11.9	38.4±12.6	50.7±12.5	<0.001
Female %	49	52	47	0.002
Poverty level %				
0-99	54	43	28	<0.001
100-199	32	38	36	
200-299	7	12	15	
≥300	6	8	21	
Employed (%Yes)	79	81	77	<0.001
Insurance				
Private	25	38	50	<0.001
Medicare	<1	<1	5	
Medicaid	22	20	18	
None	53	41	27	
Education				
College	42	42	42	<0.001
High School	45	45	39	
<High School	13	13	20	
Routine Care (%Yes)	55	70	81	<0.001
Limited English Proficiency (%Yes)	86	72	58	<0.001

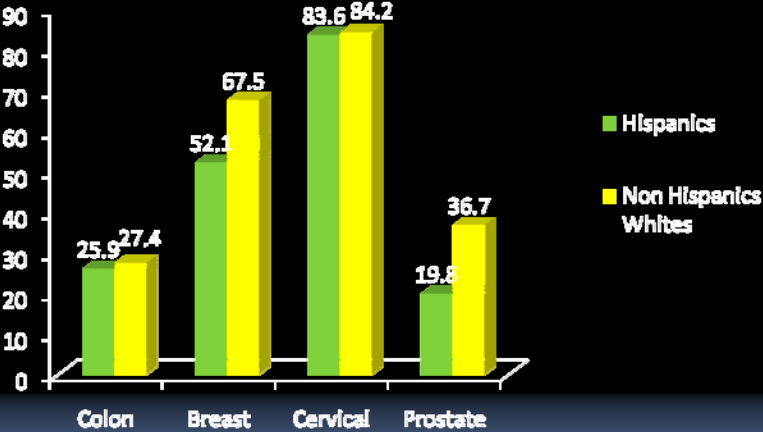
Rates of Anxiety and Depressive symptoms in Hispanics vs. Non-Hispanic Whites



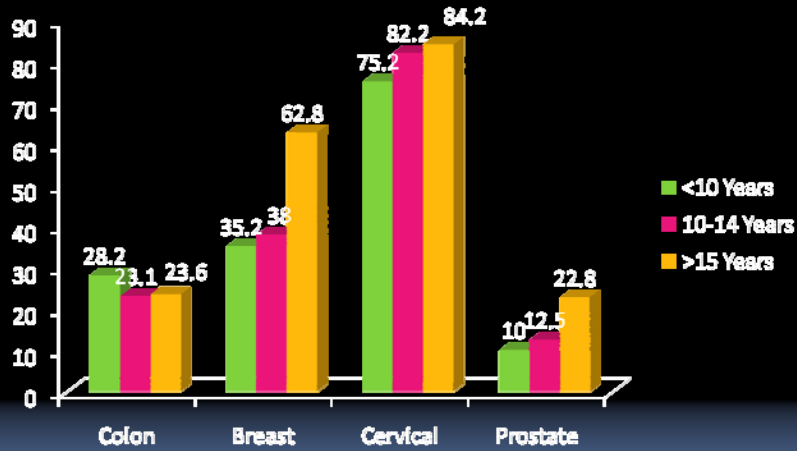
Rates of Anxiety and Depressive symptoms among Hispanics by Years in US



Rates of Cancer Screening in Hispanics vs. Non Hispanics Whites



Rates of Cancer Screening among Hispanics by Years in US



Effect of Anxiety on Cancer Screening among Hispanics

	Colon	Breast	Cervical	Prostate
Anxiety Yes No	1.1 (0.6, 2.2) REF	1.2 (0.8, 1.7) REF	0.7 (0.5, 0.9)* REF	0.8 (0.5, 1.3) REF
Year US <10 10-14 >15	3.6 (1.3, 10.1)* 0.9 (0.2, 5.6) REF	2.1 (1.2, 3.7)* 1.9 (1.1, 3.4)* REF	1.2 (0.8, 2.0) 1.3 (0.8, 2.2) REF	1.6 (0.7, 3.9) 2.8 (0.9, 7.9) REF

Models also adjusted by age, gender, education, poverty level, insurance, usual place of care, employment, and language proficiency.

Effect of Depression on Cancer Screening among Hispanics

	Colon	Breast	Cervical	Prostate
Depression Yes No	0.6 (0.3,1.4) REF	1.1 (0.7, 1.6) REF	1.2 (0.8, 1.7) REF	0.5 (0.3, 0.9)* REF
Year US <10 10-14 >15	3.8 (1.3, 11.4)* 0.9 (0.2,5.3) REF	2.1 (1.2, 3.7)* 1.9 (1.1, 3.4)* REF	1.3 (0.8, 2.0) 1.4 (0.9, 2.3) REF	1.7 (0.7, 4.1) 2.7 (0.9, 7.8) REF

Models also adjusted by age, gender, education, poverty level, insurance, usual place of care, employment, and language proficiency.

Conclusions: Anxiety/Depression

- Hispanics have higher rates of anxiety and depressive symptoms compared to NHW
 - Consistent with prior CHIS data
 - May be due to inclusion of Spanish speaking participants
- Anxiety and depressive symptoms decrease with increasing years in the US
 - Reflection of different participant cohort
 - Different source of mental distress for this group

Conclusions: Screening

- Rates of screening for colon, breast, cervical, and prostate cancer is lower compared to NHW
 - Overall poor access to care
 - Negative perceptions about screening
 - Competing interests
 - Mental distress

Conclusions: Effect of MH on screening

- Anxiety symptoms have a negative effect on cervical cancer screening
- Depressive symptoms have a negative effect on prostate cancer screening

Conclusions: Effect of MH on Screening

- After adjusting for anxiety or depressive symptoms, demographics and SES, newer immigrants are more likely to receive screening for colon and breast cancer
 - Not all Hispanics fit into the established mold

Strengths

- Large dataset
- Adjustment for acculturation variables (years in US, language proficiency)
- Predominantly Mexican American, Central American Hispanics

Limitations

- Cross-sectional
- Self reported
- Non-response bias
- CHIS does not use fully validated psychological measures

Implications

- Address mental health issues which may impede appropriate cancer screening among Hispanics
 - Enhance patient-doctor communication to formulate most appropriate and acceptable therapy
 - Self advocacy and patient activation that may be less prevalent in Hispanics from lower SES
 - **Specific interventions to overcome barriers to screening: MGH Chelsea Navigators for Colo-Rectal Cancer screening**

Implications

- Need to further evaluate the effect of acculturation, as measured by years in the US on mental health and cancer screening
 - Does mental health symptom endorsement change with acculturation?
 - Do views about cancer screening change with acculturation?

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