

Distress and Diabetes Self-Care in Impoverished Minorities Living with Type 2 Diabetes

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Ethnicity and Diabetes

- African Americans and Latinos experience greater rates of diabetes compared to Whites

Narayan et al. *JAMA* 2003

- African Americans have HbA1cs 0.65% units higher

Kirk et al. *Diabetes Care* 2006

- Latinos have HbA1cs 0.5% units higher

Kirk et al. *Diabetes Care* 2008

- Both groups experience higher rates of retinopathy, lower-extremity amputation, and end-stage renal disease

Cowie et al. *NEJM* 1989; Harris et al. *Diabetes Care* 1998; Lavery et al. *Diabetes Care* 1996; Pugh et al. *Am J Epidemiol* 199

Distress, Diabetes and Ethnicity

- Depression is consistently related to:
 - Poorer diabetes self-management
 - Poorer glycemic control
 - Risk of complications and mortality
- Diabetes-specific distress is an important and conceptually distinct construct
- Small literature on ethnic differences focuses on comparisons to Whites

Gonzalez et al. *Diabetes Care* 2008

Lustman et al. *Diabetes Care* 2000

Black et al. *Diabetes Care* 2003

Gonzalez et al. *Diabetes Care* 2011

Aims

- Examine differences between Latinos and Blacks with Type 2 diabetes
 - Self-management and adherence
 - Depression and diabetes-specific distress
- Examine the relationship between distress and self-management
 - Ethnicity as a moderator

Bronx A1c Study Design

- RCT of telephonic diabetes self-management support
- Partnership with NYC DOHMH HbA1c registry
- 941 adults with type 2 diabetes from the South Bronx
 - On medications with HbA1c > 7.0%
 - Speak English/Spanish

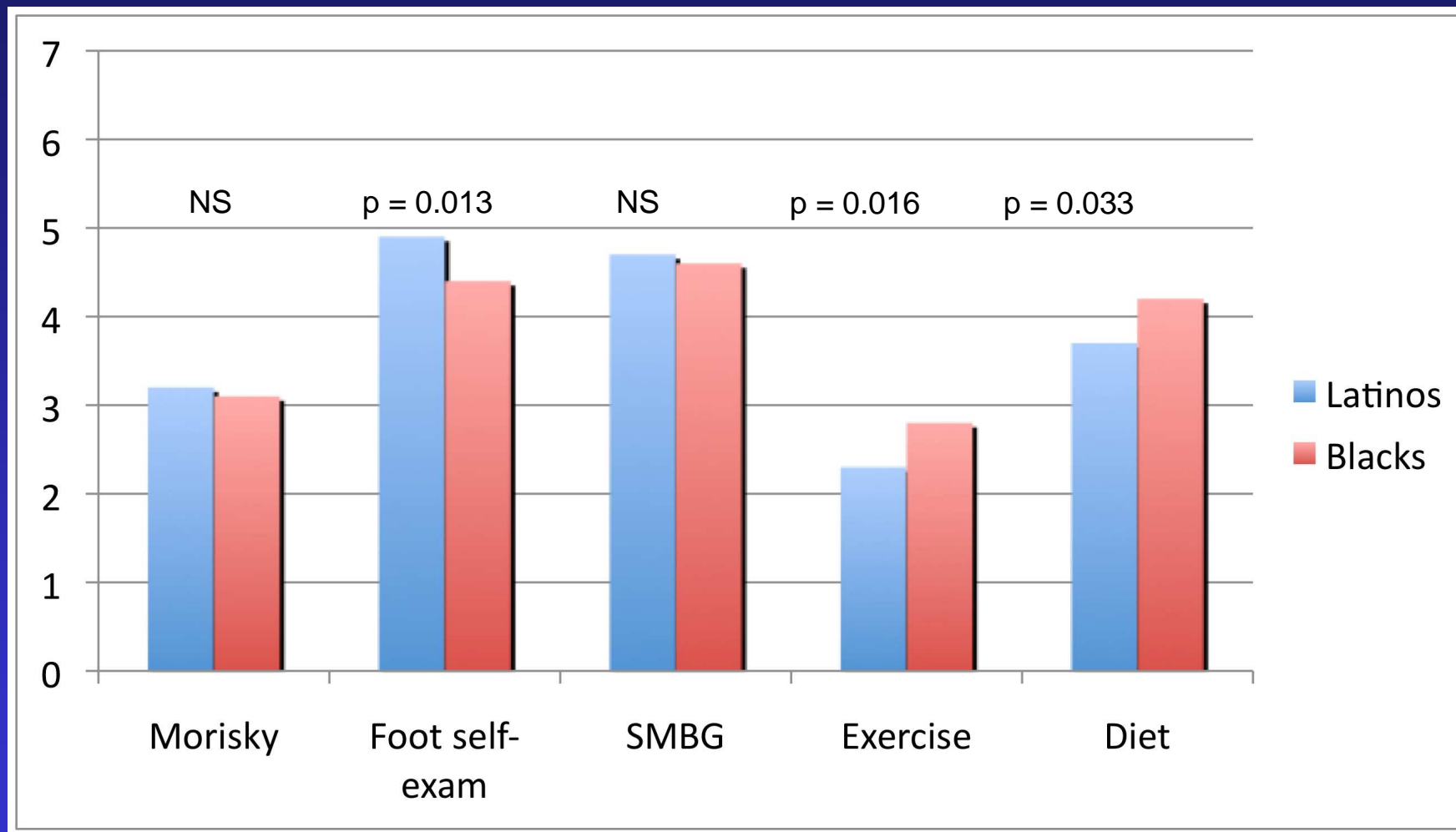
Baseline Measures

- PHQ-8: MDD screening and depression symptom severity
- Diabetes Distress Scale: screening and distress severity
 - Added late – sample limited
- Summary of Diabetes Self-Care Activities
 - Diet, Exercise, SMBG, Foot self-examination
- Morisky: Medication Adherence
- Demographics and registry-provided HbA1c

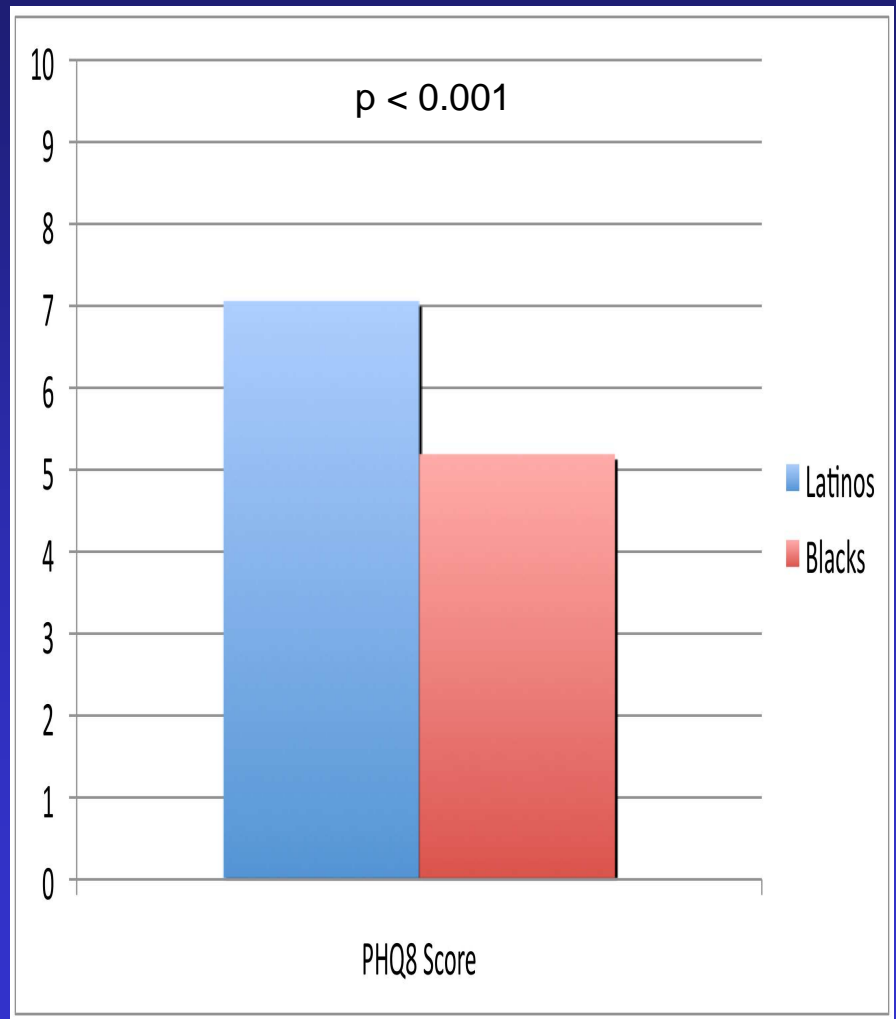
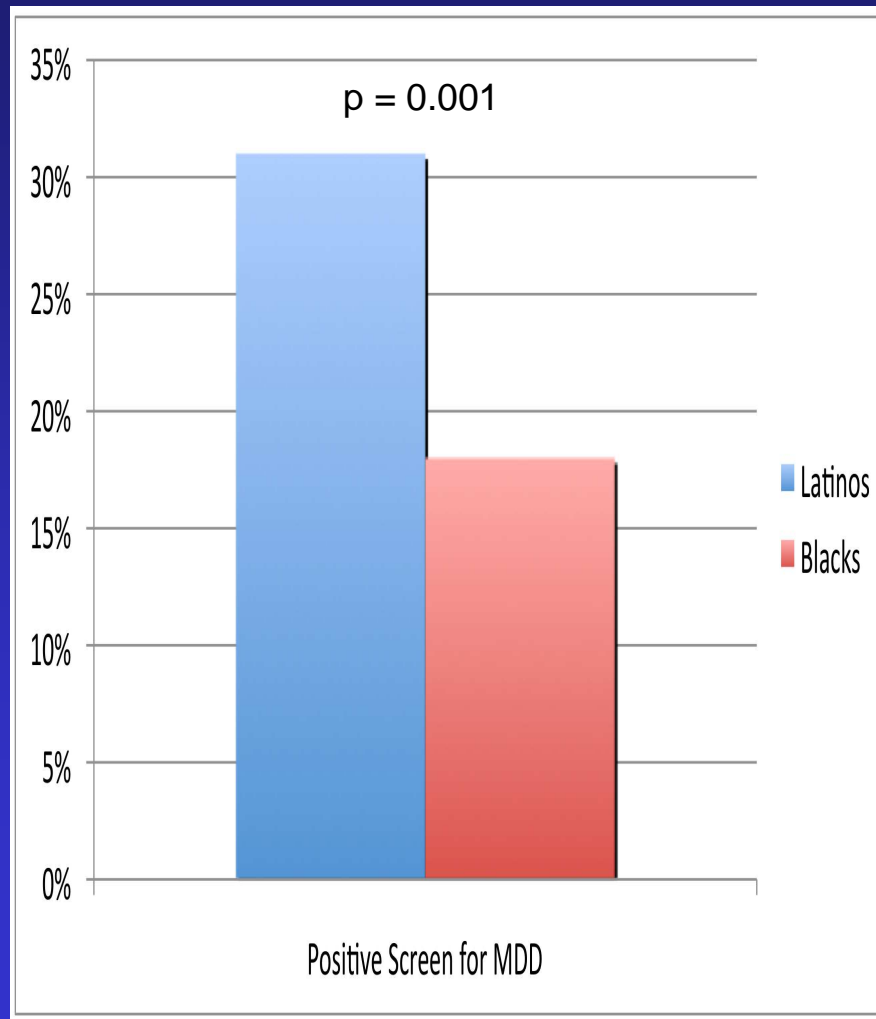
Sample

Characteristic	
N	639
Age, mean (SD)	56 (12)
Female	65%
Latino	69%
African American	27%
Spanish Language	57%
Born in USA	30%
Less than HS/GED	50%
Unemployed/Disabled	55%
Family Income < \$20K	78%
BMI	32 (8)
HbA1c	9.1 (1.9)

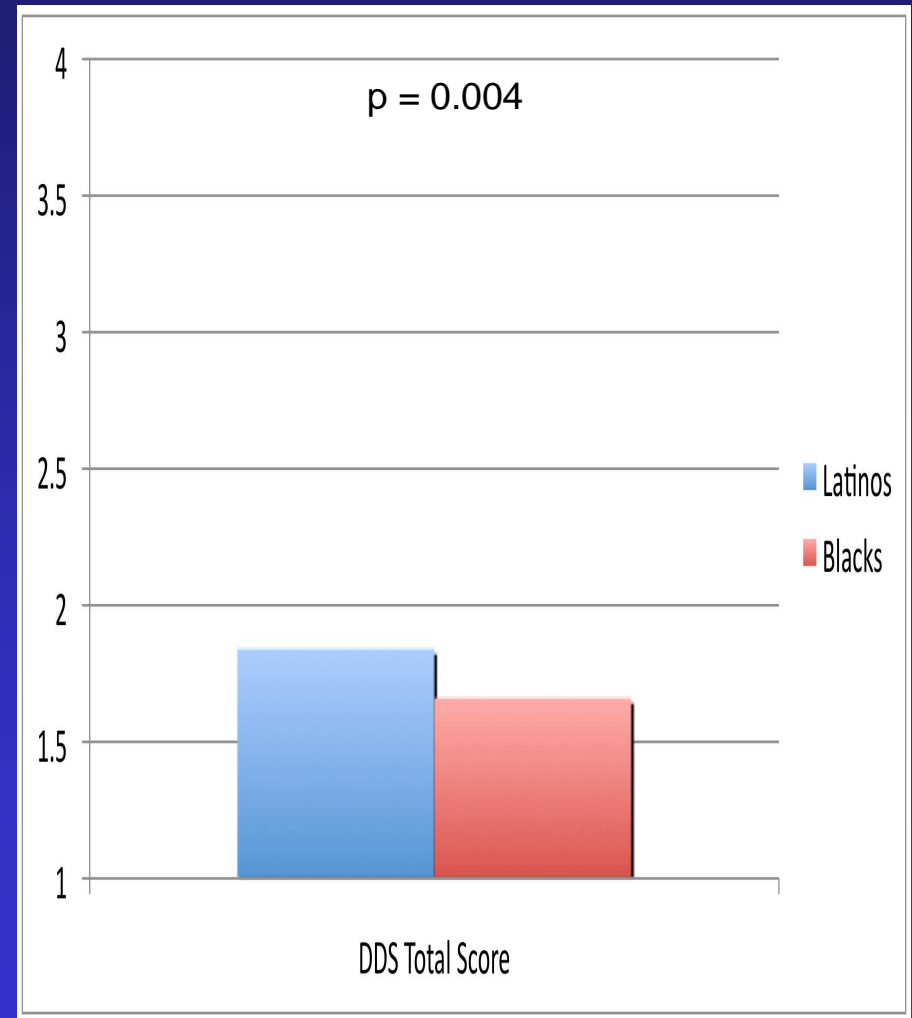
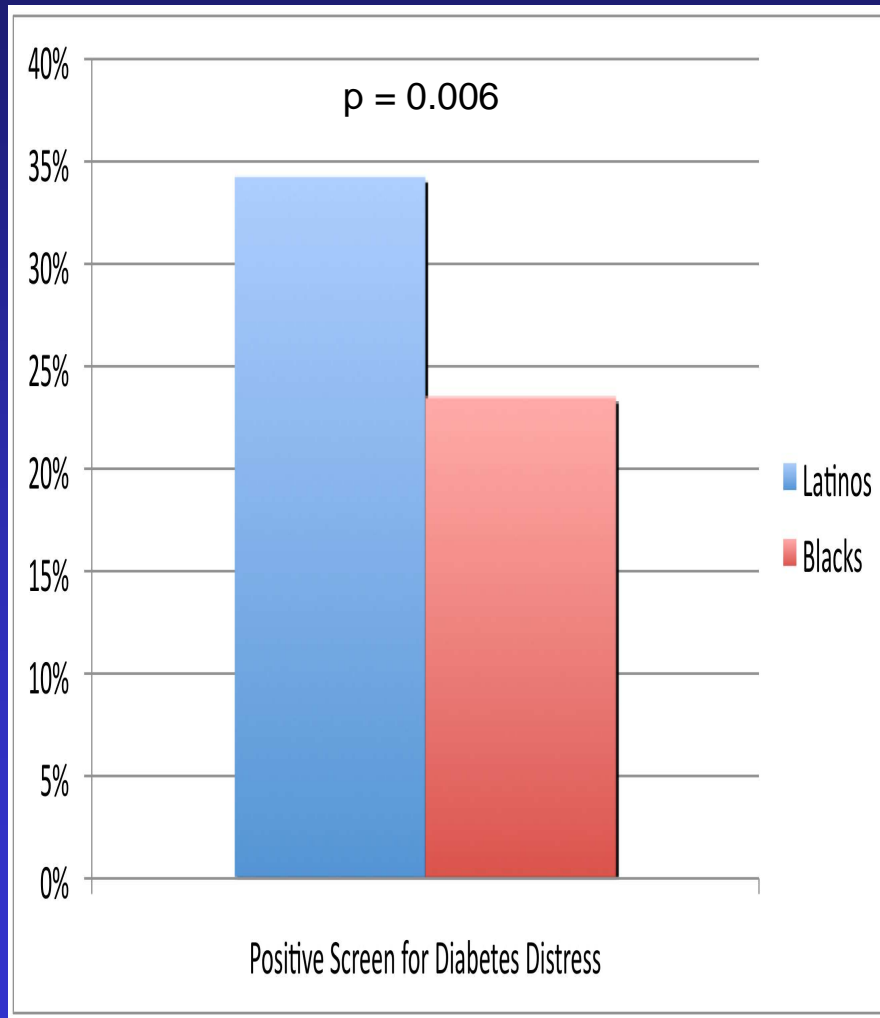
Diabetes Self-Management: Ethnic Differences



Depression: Ethnic Differences



Diabetes Distress: Ethnic Differences



Multivariate Analyses and Factor Analysis

- Adjusting for age, income, education, insurance, and diabetes duration failed to account for significant ethnic differences
- Confirmatory and exploratory factor analyses of the DDS and PHQ-8 suggested equivalent structures for both ethnic groups

Distress and Self-Management: Bivariate Relationships

	PHQ-8	DDS
Morisky	-.27	-.33
Foot self-exam	-.04	-.01
SMBG	-.04	-.20
Exercise	-.17	-.11
Diet	-.28	-.30

Multivariate Analyses

- Ethnicity was examined as a moderator of relationships between PHQ8, DDS and Self-management
- Of 10 interaction terms, only 2 reached significance
 - DDS and PHQ8 were less strongly related to exercise for Latinos

Conclusions

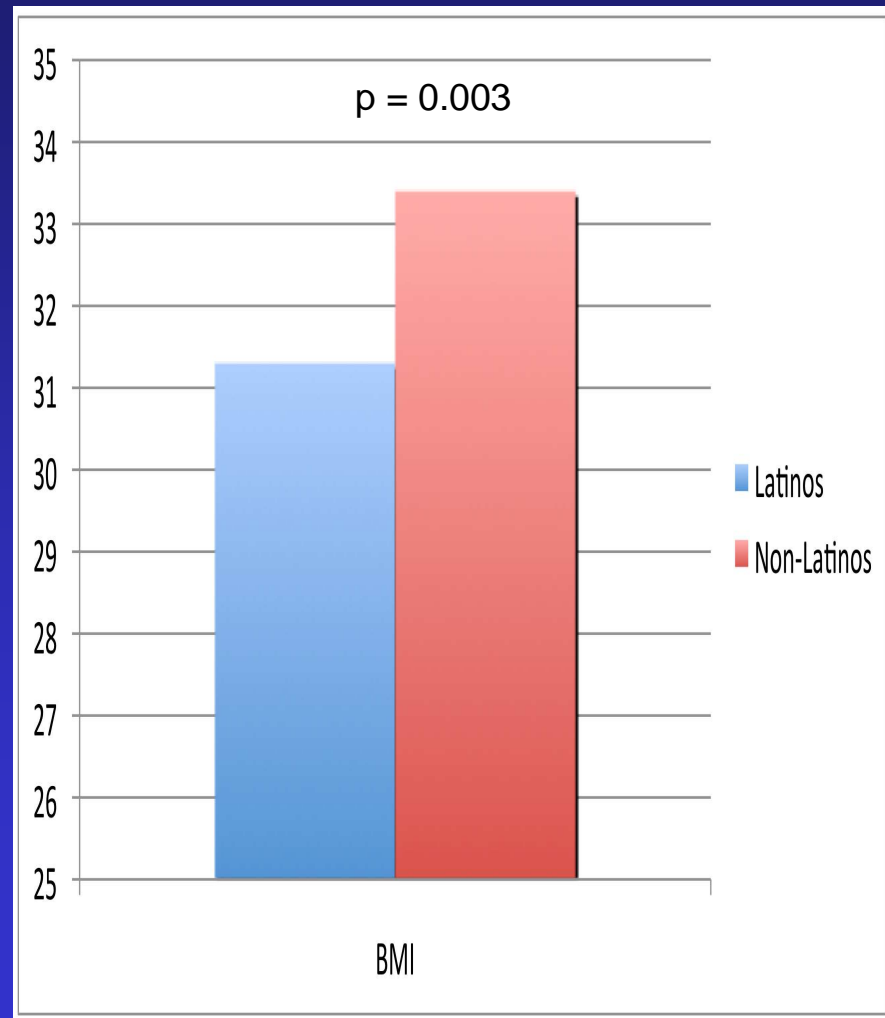
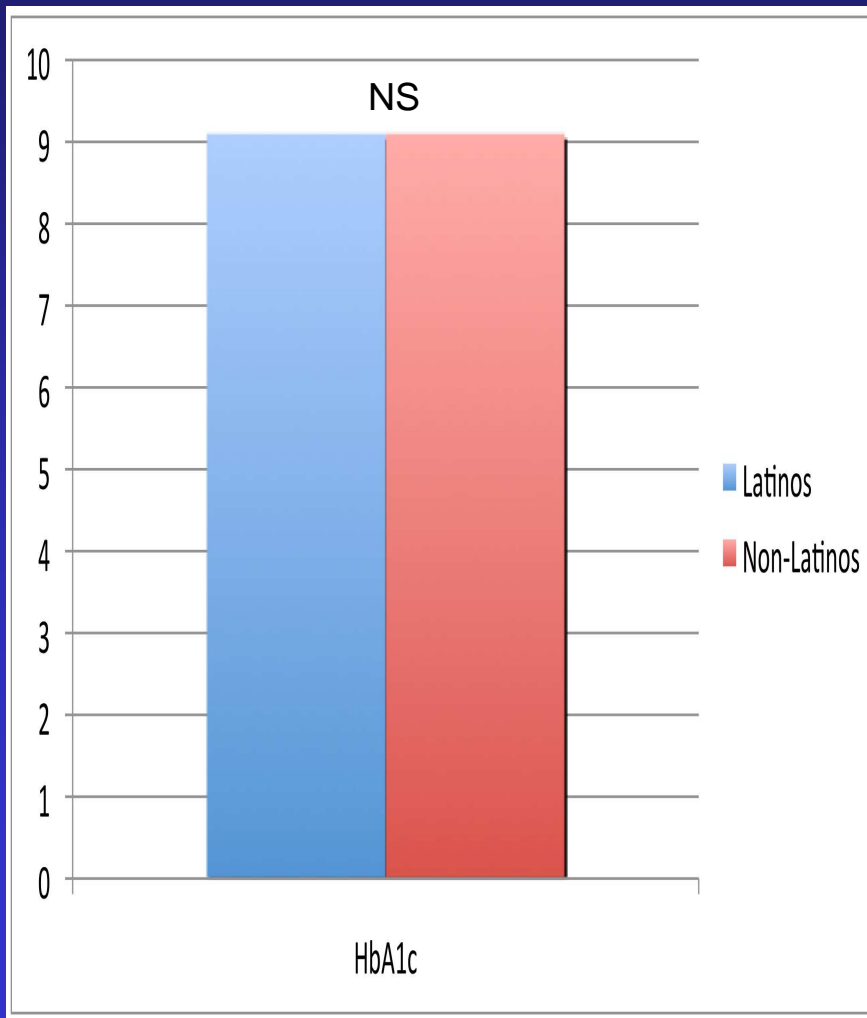
- Latinos with type 2 diabetes experience significantly more symptoms of depression and distress compared to Blacks
- Latinos also report significantly worse adherence to diet and physical activity recommendations, although they reported better foot self-care
- Socio-economic and illness-related factors could not account for these differences
- No evidence to question the validity of measurement

Implications

- Latinos with diabetes should be recognized as an at-risk group for depression symptoms, diabetes-related distress, and problems with lifestyle adjustments
- Treatment approaches consistent with the cultural preferences of Latinos deserve investigation



Glycemic Control and BMI: Ethnic Differences



Real World: Few Achieve Recommended Targets

Figure. Percentages of Adults With Recommended Levels of Vascular Disease Risk Factors in NHANES III (1988-1994) and NHANES 1999-2000

