

Relation between physical activity, depression, and health problems among Latinos



¹Elva M. Arredondo, Ph.D., ²Tamar Mendelson, Ph.D., ¹Guadalupe X. Ayala, Ph.D., MPH, and

¹John P. Elder, Ph.D., MPH
¹San Diego State University

²Johns Hopkins Bloomberg School of Public Health

Introduction

- A higher prevalence and incidence of depression has been observed among individuals with medical conditions (Patten et al., 2005).
- For example, depression is comorbid with diabetes at a rate of 15-30% (Anderson et al., 2001).
- Physical activity is associated with improved physical and mental health outcomes (Bauman, 2004; Kruk, 2007).
- A modest number of studies examine the mediational role of physical activity on medical conditions and depression.

Methods

Sample and Procedures

- Telephone survey with Latino residents of San Ysidro and National City from July through December, 2006.
- Telephone numbers were randomly selected from a list of Hispanic-surname household phone numbers in San Ysidro and National City.
- Eligible participants were between 18 and 69 years of age and reported Latino descent.
- Interviews were conducted in either English or Spanish and lasted approximately 30 minutes.
- Response rate: 38%; refusal rate: 20%.

Measures

- Physical Activity:** The International Physical Activity Questionnaire (IPAQ) assessed the frequency and duration of walking, moderate intensity, and vigorous intensity physical activity for leisure-time during the last 7 days (Craig et al., 2003).
- Medical Conditions:** Participants were asked several BRFSS questions on physician-diagnosed health conditions: diabetes, cardio-related disease, hypertension, asthma, cancer, arthritis, sleep problems. Response options were either 1 ("yes") or 0 ("no").
- Depression:** The Patient Health Questionnaire-2 consists of two questions that assess the presence of anhedonia and dysphoria (Kroenke, et al., 2003).

Study Aims

- Examine the relationship between medical conditions and depressive symptoms
- Assess if physical activity (leisure time walking, leisure time moderate and vigorous physical activity) mediates the relationship between medical conditions and depressive symptoms.

Table 1: Demographic characteristics of sample

Characteristic	N=672
Female (%)	71.3%
Mean (SD) age	39.77 (13.4)
Married (%)	51%
Born in the US (%)	30.8%
Interviewed in Spanish (%)	58.9%
Health insurance (%)	58.6%
Self-reported health fair to poor (%)	41%
Graduated from high school (%)	60.7%
Average years in the US—Foreign only	19.4 (12.4)

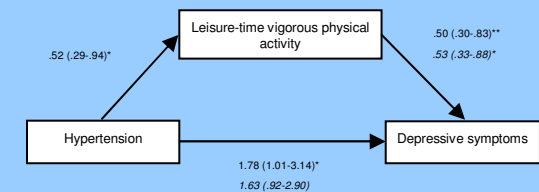
Table 2: Associations between medical conditions and depressive symptoms

Medical Condition	OR	95% CI	P-value
Diabetes	3.63	1.72-7.66	p<.01
Cardio-related disease	3.17	1.13-8.92	p<.02
Hypertension	1.78	1.01-3.14	p<.04
High Cholesterol	2.54	1.40-4.63	p<.01
Asthma	0.97	1.41-2.28	p<.95
Cancer	1.76	0.52-5.98	p<.36
Arthritis	2.33	1.28-4.23	p<.01
Sleep problems	2.99	1.75-5.09	p<.001

Adjusted for employment, income, education, and age

Results

Figure 1: Effects of medical condition (hypertension) and leisure-time physical activity on depressive symptoms



Adjusted for employment, income, education, and age
 Based on Baron and Kenny's (1986) test of mediation
 *p<.05; **p<.01; ***p<.001

Results

- Findings are consistent with previous research showing a link between depression and medical conditions.
- In addition, vigorous leisure-time physical activity mediated the association between hypertension and depressive symptoms. One possible explanation is that vigorous activity may help control or reduce hypertension, which may in turn reduce individuals' depressive symptoms associated with that condition.
- Interventions may want to encourage individuals diagnosed with hypertension to engage in vigorous levels of physical activity.
- Our results suggest that physical activity may be a promising arena for the development of strategies to treat or prevent depression among Latinos.

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