Latino Population Assessment: Foundation, Process, and Discovery

Diga Si a la Salud
(Say Yes to Health)

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Western Institute of Nursing Conference April 2010

Boise State University Department of Nursing and Kinesiology
Purpose

Describe the current health behavior of members of the Latino faith community by conducting a community health assessment at two churches in Canyon County, Idaho.
Research Questions

• What are the self-described health promoting behaviors of Latino members of two faith communities?

• What are the biophysical markers of Latino members of two faith communities?

• What are the perceived health needs of Latino members of two faith communities?
Background

- Diabetes is one of the fastest growing disease classifications within the United States, especially among the Latino population.
- Nationally 2.5 million or 9.5% of all Latinos, 20 years of age or older, have diabetes.
- Latino individuals are 1.7 times as likely to have diabetes compared to non-Hispanic whites of similar age.
Objective

Use the data gathered to develop culturally relevant interventions in an attempt to decrease the prevalence and progression of type 2 diabetes.
Methods

• A descriptive study was carried out to gather baseline assessment data for the Latino population in two Faith Communities in Canyon County, Idaho.
Methods: Data Collected

- Demographics

- Anthropometric measurements:
  - Height and weight, used to calculate BMI
    (Formula: \( m/ht^2 \) where \( m \) is mass in kilograms and \( ht \) is height in meters)
  - Hip and abdominal girth
  - Neck circumference
  - Skinfold
    - Males: Thigh, chest and abdominal skinfold
    - Females: Thigh, triceps and suprailium skinfold
Methods: Data Collected

- Fasting venous blood draw:
  - Glucose
  - Insulin
  - Hemoglobin A1C
  - Lipid profile
- Blood pressure
- Lifestyle data
  (collected using the Health-Promoting Lifestyle Profile II)
- Current prescription/non-prescription medications
Population Description

• N = 148
  – 64 males
  – 84 females

• Mean age = 42.7 years
  – Ages ranged from 18 to 75 years

• 14 self report type 2 diabetes
Population Description

- 72% of participants married
- 75% have at least 1 child
  - 62% have between 2 and 4 children
- 57% have no medical insurance, including Medicare and Medicaid
- Annual Household income = $15,500
Population Description

• Country of origin:
  – 12.2% born in United States
  – 72.3% born in Mexico
  – 9.4% born in Guatemala or El Salvador
  – 6.1% born in other Latin countries
    • Argentina, Chile, Columbia, Costa Rica, Honduras or Panama

• Average number of years in US = 16
Population Description

- Spoken language:
  - 99% speak Spanish
  - 47% speak English
  - 51% are bilingual (Spanish/English)

- Language participants read/write:
  - 12% unable to read Spanish
  - 57% unable to read English
  - 15% unable to write Spanish
  - 67% unable to write English
Purpose of Symposium

- Discuss the development of a theory-guided health assessment (Dr. Leonie Sutherland)
- Describe the challenges associated with the use of a validated research tool with a Latino population (Julie Vanty)
- Assess the current biophysical markers (Dr. Dawn Weiler) and anthropometry status (Dr. Shawn Simonson) of Latino adults with or at risk for type 2 diabetes
The Utility of Theory Guided Assessment in the Latino Population

Leonie Sutherland, PhD, RN
Dawn Weiler, PhD, APRN-ANP
Julie Vanty, MS, RN
Jonathan Glogowsk, Research Assistant

Boise State University Department of Nursing and Kinesiology
Is there nothing more practical than good theory?

Rothman, 2004
Why Theory Guided Assessment

• Provides data answers for questions of “why, what and how” health problems should be addressed

• Addresses the issues of intuitive intervention design

• Explains the dynamics of health behavior
Goal of our Study

• Clearly identify the theory of the problem in order to develop theory-based interventions
Theory of the Problem

- Conceptualize the problem
- Define the problem
- Select a theory of the problem
## Health Promotion Model: Assessment Parameters

<table>
<thead>
<tr>
<th>Individual Characteristics &amp; Experiences</th>
<th>Behavior Specific Cognitions and Affects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior related behaviors</td>
<td>Perceived benefit to action</td>
</tr>
<tr>
<td>Personal Factors</td>
<td>Perceived barrier to action</td>
</tr>
<tr>
<td>Biological</td>
<td>Interpersonal influences</td>
</tr>
<tr>
<td>Psychological</td>
<td>Situational influences</td>
</tr>
<tr>
<td>Socio-cultural</td>
<td></td>
</tr>
</tbody>
</table>

Pender, Murdaugh, & Parsons (2006)
Theory of the Problem

• Conceptualization and Definition
  – Causative, associative and contributing factors
  – Characteristics and manifestations
  – Target levels of the problem
  – At what level is the problem amenable to change
  – What are the desired outcomes
Selected Theory of the Problem

- There is no theory of everything

- Social Norm Theory
  - Behavior is influenced by perception of how other members of social group behave
### Theory-Based Interventions

<table>
<thead>
<tr>
<th>Problem</th>
<th>Due to</th>
<th>Critical input</th>
<th>Mediator</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>Genetics</td>
<td>Our Intervention</td>
<td>Modify Social Norms and Environment</td>
<td>Prevent Delay Onset</td>
</tr>
<tr>
<td>Risk for Diabetes</td>
<td>Social Norms Environment</td>
<td></td>
<td></td>
<td>Delay Progression</td>
</tr>
</tbody>
</table>
In the world of theory there strode 3 giants: Albert Bandura, Martin Fishbein, Everett Rogers

Many have stood on their broad shoulders and benefited from their seminal research. To them the field owes a great debt of gratitude

Diclemente, Crosby, and Kegler (2009)
Health-Promoting Lifestyle Profile: Lessons Learned

Julie Vanty, MS, RN
Leonie Sutherland, PhD, RN
Dawn Weiler, PhD, APRN-ANP
Jonathan Glogowski, Research Assistant
Survey Purpose

- Measure patterns of health-promoting behavior
- Identify population specific approaches for health promotion
Survey: Health-Promoting Lifestyle Profile II (HPLP II)

- 52-item survey composed of a total scale and six subscales
- Spanish and English translations
- 4-point scale: 1 (never), 2 (sometimes), 3 (often), 4 (routinely)

Validity and Reliability

• Construct validity (r=.678)
• Criterion-related validity (r’s=.269-.491)
• Alpha coefficient of internal consistency
  – Total scale = .943
  – Subscales = .793 -.872
• Cronbach’s alpha reliability coefficient

<table>
<thead>
<tr>
<th>English</th>
<th>Spanish</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.83</td>
<td>0.80</td>
</tr>
</tbody>
</table>
Subscales

- Health Responsibility
- Physical Activity
- Nutrition
- Spiritual Growth
- Interpersonal Relations
- Stress Management
Preparation

• Survey was given to members of the Latino Health Coalition (LHC) for review and feedback prior to delivery

• No concerns related to translation were identified prior to survey delivery
Data Collection

- Participants chose English or Spanish survey
- Interpreters were present throughout the process
# Health Responsibility

<table>
<thead>
<tr>
<th>Questions</th>
<th>N, S</th>
<th>O, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report any unusual signs or symptoms to a physician or other health professional</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>Get a second opinion when I question my health care provider’s advice</td>
<td>75%</td>
<td>25%</td>
</tr>
</tbody>
</table>

N, S = Never, Sometimes and O, R = Often, Routinely
# Health Responsibility

<table>
<thead>
<tr>
<th>Questions</th>
<th>N, S</th>
<th>O, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attend educational programs on personal health care</td>
<td>86%</td>
<td>14%</td>
</tr>
</tbody>
</table>

N, S = Never, Sometimes and O, R = Often, Routinely
### Physical Activity

<table>
<thead>
<tr>
<th>Questions</th>
<th>N, S</th>
<th>O, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling)</td>
<td>76%</td>
<td>24%</td>
</tr>
<tr>
<td>Check my pulse rate when exercising</td>
<td>93%</td>
<td>7%</td>
</tr>
</tbody>
</table>

N, S = Never, Sometimes and O, R = Often, Routinely
Stress Management

<table>
<thead>
<tr>
<th>Questions</th>
<th>N, S</th>
<th>O, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance time between work and play</td>
<td>72%</td>
<td>28%</td>
</tr>
<tr>
<td>Practice relaxation or meditation for 15-20 minutes daily</td>
<td>88%</td>
<td>12%</td>
</tr>
</tbody>
</table>

N, S = Never, Sometimes and O, R = Often, Routinely
## Spiritual Growth

<table>
<thead>
<tr>
<th>Questions</th>
<th>N, S</th>
<th>O, R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Am aware of what is important to me in life</td>
<td>22%</td>
<td>78%</td>
</tr>
<tr>
<td>Feel connected with some force stronger than myself</td>
<td>46%</td>
<td>54%</td>
</tr>
</tbody>
</table>

N, S = Never, Sometimes and O, R = Often, Routinely
Results

- Minimal differences between churches
- Spiritual Growth – highest scores
- Physical Activity – lowest scores
- Stress Management - low scores
Limitations

• Difficulty finding equivalent word to convey the correct meaning

• Survey word choice

• Conceptual versus literal meaning of words
  
  Example: Touch and am touched by people I care about

• 4-point Likert scale
Future considerations

- Consider local and regional variations
- Reading level of the instrument
- Interpreter training
Assessing Diabetes Risk Among Latino Adults: Current vs New Recommendations

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Jonathan Glogowski, Research Assistant
Shawn Simonson, Ed.D, C.S.C.S., ACSM HFS

Boise State University Department of Nursing and Kinesiology
Purpose

To compare Hemoglobin A1C and Fasting Glucose Criteria for Identifying Diabetes and Diabetes Risk in a Latino Population in Southwest Idaho
# Plasma Glucose Criteria

- **1997 American Diabetes Association Clinical Practice Guidelines**

<table>
<thead>
<tr>
<th>Diagnostic Classification</th>
<th>Fasting Glucose Value</th>
<th>Random Glucose Value</th>
<th>2-3 hour OGTT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diabetes</strong></td>
<td>≥ 126 mg/dl</td>
<td>≥ 200 mg/dl</td>
<td>≥ 200 mg/dl</td>
</tr>
<tr>
<td><strong>Impaired Fasting Glucose</strong></td>
<td>100-125 mg/dl (Pre-Diabetes)</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td><strong>Impaired Glucose Tolerance</strong></td>
<td>ND</td>
<td>ND</td>
<td>140-199 mg/dl (Pre-Diabetes)</td>
</tr>
</tbody>
</table>
Hemoglobin A1C Criteria

- International Expert Committee (June 2009)
- American Diabetes Association 2010 Clinical Practice Guidelines

<table>
<thead>
<tr>
<th>Diagnostic Classification</th>
<th>A1C Value</th>
<th>Estimated Average Glucose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>≥ 6.5%</td>
<td>≥ 140 mg/dl</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>6.0-6.4%</td>
<td>126-137 mg/dl</td>
</tr>
<tr>
<td>High Risk</td>
<td>5.7-5.9%</td>
<td>117-123 mg/dl</td>
</tr>
</tbody>
</table>
Results

• Fasting Glucose
  – Mean = 97
  – Range = 60-310
  – 29.1% “At Risk”
  – 2.2% “Diabetes”

• Hemoglobin A1C
  – Mean = 5.7
  – Range = 4.4-13.8
  – 32.8% “At Risk”
  – 6.7% “Diabetes”
## Results

### Diabetes Status: Glucose by A1C

<table>
<thead>
<tr>
<th>DM Status (Glucose)</th>
<th>None (Glucose)</th>
<th>At Risk (100-125)</th>
<th>DM (126+)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>67</td>
<td>24</td>
<td>1</td>
<td>92</td>
</tr>
<tr>
<td>At Risk (100-125)</td>
<td>14</td>
<td>20</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>DM (126+)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DM Status (A1C)</th>
<th>None</th>
<th>At Risk (5.7-6.4)</th>
<th>DM (≥ 6.5)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>67</td>
<td>24</td>
<td>1</td>
<td>92</td>
</tr>
<tr>
<td>At Risk (5.7-6.4)</td>
<td>14</td>
<td>20</td>
<td>5</td>
<td>39</td>
</tr>
<tr>
<td>DM (≥ 6.5)</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

| Total               | 81   | 44                | 9          | 134   |
## Results

<table>
<thead>
<tr>
<th></th>
<th>DM Status (Glucose)</th>
<th>DM Status (A1C)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>At Risk</td>
<td>DM</td>
</tr>
<tr>
<td></td>
<td>Mean (n=39)</td>
<td>Mean (n=3)</td>
</tr>
<tr>
<td>Cholesterol (mg/dL)</td>
<td>198</td>
<td>226</td>
</tr>
<tr>
<td>Triglycerides (mg/dL)</td>
<td>204</td>
<td>188</td>
</tr>
<tr>
<td>HDL (mg/dL)</td>
<td>36</td>
<td>31</td>
</tr>
<tr>
<td>LDL (mg/dL)</td>
<td>125</td>
<td>157</td>
</tr>
<tr>
<td>VLDL (mg/dL)</td>
<td>27</td>
<td>30</td>
</tr>
<tr>
<td>Chol/HDL(^A)</td>
<td>5.61</td>
<td>7.40</td>
</tr>
<tr>
<td>Non-HDL Chol (mg/dL)</td>
<td>159</td>
<td>195</td>
</tr>
<tr>
<td>BMI(^A)</td>
<td>29.93</td>
<td>40.99</td>
</tr>
<tr>
<td>%Fat(^A)</td>
<td>27.02</td>
<td>37.22</td>
</tr>
<tr>
<td>Waist:Hip</td>
<td>.93</td>
<td>.94</td>
</tr>
</tbody>
</table>

Glucose: At risk (100-125 mg/dL), Diagnosis (≥ 126 mg/dL)
A1C: At risk (5.7-6.4%), Diagnosis (≥ 6.5%)
Results

- Forty-four participants (32.8%) had A1Cs between 5.7 and 6.4 (high risk) of whom 54.5% (n=24) had normal FG values (less than 100).

- Of those with A1Cs between 6.0 and 6.4 (very high risk; n=17) 47% (n=8) had normal FG levels.
Results

• 25.7% (n=39) who met “impaired fasting glucose” (pre-diabetes) criteria
  34.2% (n=13) had normal A1C values.

• 37.3% (n=25) with normal FG levels had A1C levels indicative of “high risk” or DM diagnosis
Clinical Implications

• Fasting Glucose Criteria
  – Diabetes Risk Screening
    – 71% False Negative Rate
    – 34.2% False Positive Rate
  – Diabetes Diagnosis
    – 66.7% Diagnosis Failure Rate

• Criteria Complexity in Clinical Practice
• Often requires repeat confirmatory testing
Clinical Implications

• A1C Screening Criteria
  – More Accurate ID Rate
  – ID Earlier in Disease Trajectory
  – Ease of Testing
  – Clear Diagnostic Categories
Future Steps

• Additional Research
  – Do results remain consistent?
  – Impact on Health Outcomes
  – Intervention Studies
    • Prevent
    • Delay Onset
    • Delay Progression
Anthropometric Divergence in a Latino Population

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Leonie Sutherland, PhD, RN

Boise State University Department of Nursing and Kinesiology
Purpose

To assess anthropometry (waist-hip ratio, height, weight, and body composition (skin-folds)) status of Latino adults with or at risk for type 2 diabetes in two faith communities in southwest Idaho.
Background
Methods

• Descriptive study
  – baseline health status assessment data for Latino adults with or at risk for diabetes

• Anthropometric data
  – Height
  – Mass
  – Circumferences
    • Waist and hip
  – Skinfolds (3-site Jackson-Pollock)
Methods

• Calculations
  – Body mass index (BMI)
  – Waist-to-hip ratio (W:H)
  – Body composition (%BF, Jackson-Pollock or Heyward)

• Correlated to standard blood panels and blood pressure.
  – $p \leq 0.05$

  • Only moderate or greater correlations are reported
## Results

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Mass</th>
<th>BMI</th>
<th>W:H</th>
<th>%BF</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>86</td>
<td>62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (y)</td>
<td>42.07 ± 1.54</td>
<td>43.33 ± 1.54</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glucose (mg/dL)</td>
<td>101.36 ± 3.73</td>
<td>100.69 ± 2.08</td>
<td>ns</td>
<td>0.351</td>
<td>0.239</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.459</td>
<td>ns</td>
</tr>
<tr>
<td>HbA1c (%)</td>
<td>5.87 ± 0.13</td>
<td>5.70 ± 0.07</td>
<td>ns</td>
<td>0.351</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ns</td>
<td>0.426</td>
<td>ns</td>
</tr>
<tr>
<td>Chol_tot (mg/dL)</td>
<td>189.94 ± 4.48</td>
<td>186.10 ± 5.56</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>Trig (mg/dL)</td>
<td>130.84 ± 8.11</td>
<td>163.81 ± 16.86</td>
<td>0.277</td>
<td>ns</td>
<td>0.361</td>
</tr>
<tr>
<td>LDL (mg/dL)</td>
<td>123.09 ± 3.64</td>
<td>122.90 ± 4.59</td>
<td>ns</td>
<td>ns</td>
<td>ns</td>
</tr>
<tr>
<td>HDL (mg/dL)</td>
<td>41.26 ± 1.21</td>
<td>34.21 ± 1.09</td>
<td>-0.238</td>
<td>-0.375</td>
<td>ns</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chol/HDL</td>
<td>4.84 ± 0.13</td>
<td>5.60 ± 0.18</td>
<td>ns</td>
<td>ns</td>
<td>0.246</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.269</td>
<td>0.300</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>0.349</td>
<td>0.260</td>
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<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>BP_sys (mmHg)</td>
<td>119 ± 2.02</td>
<td>129 ± 2.57</td>
<td>0.286</td>
<td>ns</td>
<td>0.375</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ns</td>
<td>0.323</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.354</td>
</tr>
<tr>
<td>BP_dia (mmHg)</td>
<td>69 ± 1.17</td>
<td>77 ± 1.06</td>
<td>0.308</td>
<td>ns</td>
<td>0.339</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.318</td>
<td>0.223</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.295</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.269</td>
</tr>
<tr>
<td>Mass (kg)</td>
<td>70.57 ± 1.60</td>
<td>81.08 ± 1.80</td>
<td>0.917</td>
<td>0.916</td>
<td>0.429</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.614</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.772</td>
</tr>
<tr>
<td>BMI</td>
<td>29.16 ± 0.62</td>
<td>28.60 ± 0.58</td>
<td>0.513</td>
<td>0.437</td>
<td>0.600</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.824</td>
</tr>
<tr>
<td>W:H</td>
<td>0.87 ± 0.01</td>
<td>0.96 ± 0.01</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.322</td>
</tr>
<tr>
<td>%BF</td>
<td>29.55 ± 0.59</td>
<td>24.36 ± 0.96</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Results

• %BF
  – Strong correlation for both and
    • Body mass (0.614, 0.772, respectively)
    • BMI (0.660, 0.824, respectively)
  – Moderate correlations
    • W:H in ♀ and ♂ (0.322, 0.400, respectively)
    • Systolic BP (0.354) for ♀ (ns ♂)
    • Fasting glucose (0.315) and HbA1c (0.351) for ♂ (ns ♀)
Results

- **W:H**
  - Moderate correlation for both and
  - BMI (0.513, 0.437, respectively)
  - Triglycerides (0.375, 0.340, respectively)
  - Total cholesterol – HDL ratio (0.300, 0.349, respectively)
  - Moderate correlations
    - Mass (0.429) for ♀ (ns ♂)
    - Systolic blood pressure (0.323) for ♀ (ns ♂)
Results

- **BMI**
  - Moderately correlated for both ♀ and ♂
  - **Triglycerides** (0.361, 0.308, respectively)
  - **Diastolic blood pressure** (0.339, 0.318)
  - Moderate correlation
  - **Systolic blood pressure** (0.375) for ♀ (ns ♂)
Discussion

Predictors of fasting blood glucose

- ♀
  - BMI is weakly correlated (0.24)
- ♂
  - Moderate correlations
    - BMI (0.46)
    - Mass (0.35)
    - %BF (0.32)

Predictors of HbA1c

- ♀
  - No anthropometric measures correlate
- ♂
  - Moderate correlations
    - BMI (0.43)
    - Mass (0.35)
    - %BF (0.35)
Discussion

Predictors of fasting lipids – total cholesterol

- ♀ – No anthropometric measures correlate

- ♂ – No anthropometric measures correlate

Predictors of fasting lipids - triglycerides

- ♀ – Moderate correlations
  - W:H (0.38)
  - BMI (0.36)

- ♂ – Moderate correlations
  - W:H (0.34)
  - BMI (0.31)
Discussion

Predictors of fasting lipids – LDL cholesterol

- ♀ – No anthropometric measures correlate
- ♂ – No anthropometric measures correlate

Predictors of fasting lipids – HDL cholesterol

- ♀ – No anthropometric measures correlate
- ♂ – Moderate correlations
  - Mass (-0.38)
  - BMI (-0.33)
## Discussion

### Predictors of blood pressure - systolic

- **♀**
  - Moderate correlations
    - BMI (0.38)
    - W:H (0.32)

- **♂**
  - No anthropometric measures correlate

### Predictors of blood pressure - diastolic

- **♀**
  - Moderate correlations
    - BMI (0.34)
    - Mass (0.31)

- **♂**
  - Moderate correlation
    - BMI (0.32)
Conclusions

• Anthropometric measures do not appear to be strong predictors of health status for this Latino population.

• Anthropometric measures may be more predictive for females than males.
Conclusions

• There is no single anthropometric measure that predicts diabetes, metabolic syndrome, or cardiovascular risk status for this Latino population.

• Additional research is needed to determine if these findings remain consistent across Latino populations.
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