Guide for Obesity Prevention in Latinamerica and US: GOL Project

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Obesity Prevention and Control Strategies in Latin American and United States Latino Populations: A Systematic Literature Review

- To better understand, develop, and apply evidence-based strategies and recommendations to effectively prevent and treat obesity in Latino communities and populations

- To build partnerships between institutions in Mexico/U.S. and the rest of Latin America

- Funded by the Centers for Disease Control
Overview of Activities

Year 1: 2009 – 2010
- Develop collaborations with primary institutes
- Conduct systematic literature review

Year 2: 2010 – 2011
- Develop recommendations based on systematic literature review
- Publish findings from literature review
- Design community demonstration projects based on findings
Overview of Activities

Year 3–4: 2011 – 2013

• Implement and evaluate community demonstration projects based on translation and tailoring of identified evidence-based strategies in Mexico and U.S.

• Explore options and ways to disseminate findings, including publishing findings from the demonstration project
Search for Literature

Peer-Reviewed Search

- Medline/PubMed, PsycInfo, CINAHL, Cochran Library, WOS, LILACS
- 1965 to 2010
- Spanish, Portuguese, & English

Grey Literature Search

- ProQuest D&T, conference proceedings, other reports and publications
Search for Literature

Key Terms

- **Obesity outcome terms**: BMI, BMI z-score, weight, skinfold, waist circumference, obese, at risk for overweight

- **Intervention/Comparison group terms**: randomized controlled trial, group randomized trial, clinical trial, pre–post design, case control

- **Ethnicity/Nationality terms**: Latino/a, Hispanic, Mexican, Spanish–speaking, Latin America, Chicano/a
Inclusion Criteria Development

- Adapted from CDC’s Community Guide and GUIA criteria
- Feedback from Advisory Board members
- Feedback from SDPRC Co-Investigators
- Final feedback from all collaborators (i.e., INSP & CDC)
Inclusion Criteria

1. Intervention is focused on obesity–related topics (e.g. not general health promotion).
2. Sample includes 50% or more Latinos (or less, if stratified).
3. The intervention was evaluated (i.e. not listed for review or recommendations) and included obesity–related measures.
4. The evaluated intervention compares people who were exposed to intervention to those who were not exposed or exposed less. This can include pre–post designs.
5. Intervention was conducted in a community setting, as opposed to a laboratory (Okay to include primary care setting).
6. Intervention did not only focus on one–on–one medical counseling or advice in a healthcare setting.
7. Intervention details were published in a format with viable information for abstraction and quality evaluation.
Categorization

- Sample (target of intervention)
  - Children
  - Children and parents/ adults
  - Adults

- Prevention versus Treatment
  - “Treatment” defined as interventions that include only obese or overweight participants
Categorization

- Intervention strategies and setting
  - Individual, Family, Internet, Healthcare-provider, Work/Organization, or School level
    - A. Strategies to Support and Promote Physical Activity or Limit Sedentary Activity
    - B. Strategies that Support and Promote Healthier Food and Beverage Choices
  - Community or School-wide
    - C. Strategies to Promote the Availability of Affordable Healthy Food and Beverages
    - D. Strategies to Support Healthy Food and Beverage Choices
Evidence of Effectiveness

- **Execution**
  - Number of limitations of an intervention identified by abstractors
  - Investigators reconciled limitations for each study and made final decisions

- **Categories:**
  - Good = 0 to 1 limitations
  - Fair = 2 to 4 limitations
  - Limited = 5 or more limitations
Evidence of Effectiveness

- **Design Suitability**
  - Type of study design includes 3 rankings:
    - *Greatest*: randomized controlled trials and prospective cohort studies or time series with a comparison group
    - *Moderate*: studies with case–control design or time series design without a comparison group
    - *Least*: studies with before–after design without a comparison group

- **Consistency**
  - General consistency in the size and direction of change among interventions
Evidence of Effectiveness

- Effect Size
  - Relative percent change from baseline
  - GOL standardized the effect sizes by using Cohen’s D
    - Allowed for comparison across the interventions
  - Calculated for BMI, weight, waist circumference, and percent body fat
# Evidence of Effectiveness

<table>
<thead>
<tr>
<th>Evidence of effectiveness</th>
<th>Execution</th>
<th>Design suitability</th>
<th>Number of studies</th>
<th>Consistent</th>
<th>Effect size</th>
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Meets criteria for execution, suitability, number and consistency for sufficient but not strong evidence

Adapted from Briss et al., 2000
Findings

- 19,786 Articles total met search criteria
- 325 Identified potential interventions
- 247 Inclusion criteria applied
  - 113 Passed criteria
- 105 included in review (total abstracted)
  - 20 dissertations/theses
GOL Consort Table

19,786 met search criteria

325 obesity prevention & treatment interventions
429 interventions without obesity-related outcomes
3,917 obesity related literature
15,087 not related to obesity or Latinos

78 Duplicates

247 able to apply inclusion/exclusion criteria

134 fail
8 excluded post-abstraction

113 pass

105 interventions included in review
Obesity-related Interventions with Strong or Sufficient Evidence for Recommendation by Region*†

\*First row indicates studies from US and second row indicates studies from Latin America

†Totals exceed number of abstracted articles (n = 105) due to interventions that are multi-level and are represented in more than one cell.

‡Indicates strong evidence for recommendation

§Indicates sufficient evidence for recommendation

<table>
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<th>Physical Activity (PA)</th>
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\*n = total number of studies in category [\# meeting recommendation criteria]
Findings of the Review

Children (Prevention)

Sufficient Evidence for:
- School–based interventions to improve physical activity and healthy eating in the U.S. among Latino children

Sufficient Evidence for:
- School–based interventions to improve PA among children in LA
Findings of the Review

Children (At Risk)

Sufficient evidence for:
- Interventions to increase healthy eating and physical activity in Latin America among obese or overweight children in the healthcare context
Findings of the Review

Adult (Treatment)

Strong evidence for:
- Individual level interventions to increase physical activity and healthy eating and in the U.S. aimed at overweight or obese Latino Adults

Sufficient evidence for:
- Individual-based treatment interventions to increase physical activity and healthy eating in Latin America

Sufficient evidence for:
- Healthcare-based interventions to increase healthy eating in Latin America among overweight or obese adults*
Figure 2. Effect sizes of school-based interventions targeting Latino children in the U.S. and L.A.
Figure 3. Effect sizes of individual-based interventions targeting Latino adults in the U.S. and L.A.
Conclusions

- Systematic review identified evidenced-based strategies for prevention and control of obesity in Latin America and U.S., for both Latino children and adults

- Limitations
  - Few interventions that include environmental and policy domains
  - Focus on obesity-related (anthropomorphomic) outcomes
New Typology – What is it?

- Evidence-based public health*
  - Making decisions using the best available peer-reviewed evidence
  - Using data and information systems systematically
  - Apply program-planning frameworks
  - Engaging the community in decision making
  - Conducting sound evaluation
  - Disseminating what is learned

- Why the new four-level evidence typology?
  - Identified need in guiding decision-makers toward “the best available evidence and the best possible evidence”
  - Help identify policies and environmental strategies to be evaluated systematically or applied
  - Help identify emerging and promising strategies for further research

Why is it important?

- Use of new typology works to identify and spread the most effective, feasible, and sustainable intervention strategies, evaluation of promising strategies, and location of emerging strategies to decision makers.*
- More widespread adoption of evidence-based strategies is recommended to achieve state and national objectives for improved population health.

Current Activities
Water Promotion Pilot

- Have completed 9 weeks of a 10-week pilot study to demonstrate one recommendation

Sufficient Evidence for:
- School-based interventions to improve physical activity and healthy eating in the U.S among Latino children
Water Promotion Pilot

- 2 elementary schools in San Diego
  - High percentage of Latino children (grades 1–5)
  - Promote water consumption during school
  - Teacher training
  - Classroom activities
  - Evaluate classroom and school environments

- 2 elementary schools in Tlaltizapan, Mexico
  - Collaboration with an existing project to promote water consumption
  - Evaluate with similar tools used in San Diego
Introducing Water Project
Chula Vista, California

Bobble Water Bottles in Classrooms

Water Cups at Lunch

General Assembly
Introducing Water Project
Chula Vista, California

Water Fountains in School

Bottles “Garrafonitos” in Classrooms
Tlaltizapan, Mexico
Thank You
Gracias
Obrigado