



Systematic Review of Behavioral Treatments for Childhood Obesity: Evaluating Evidence for Practice and Policy Decision-Making

Lisa M. Klesges, Kara Davis, Joanna Buscemi, Katherine Kitzmann

Presented SBM, 2009

Background

- To inform decisions about practice and policy -- need
 - More research designed to help choose between approaches
 - Improvements in how we report research results
 - Description of contextual variables to evaluate the applicability of research to local conditions

Limited Evidence Base for Childhood Obesity

US Preventive Services Task Force

- Insufficient evidence to recommend primary care screening (Whitlock et al., 2005)

Cochrane Review (Summerbell et al., 2008 update)

- Limited quality data to recommend one treatment program over another

Community Preventive Services Guide

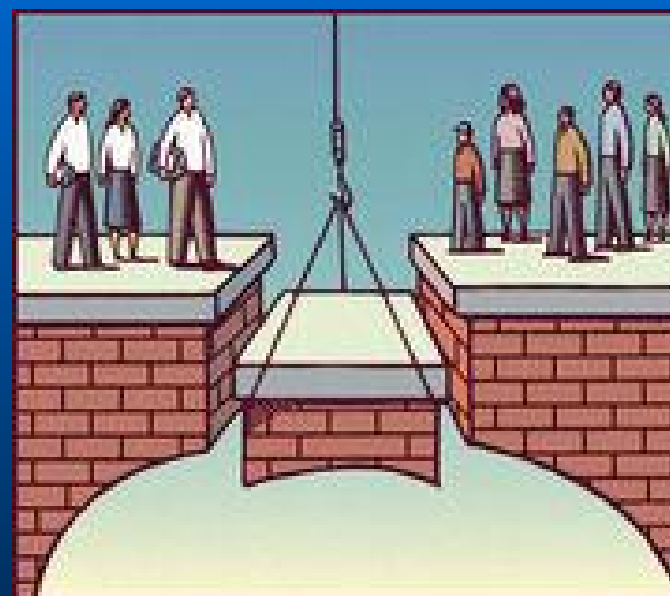
- Insufficient evidence to determine effectiveness of school-based interventions

Childhood Obesity Policy

Current issues specific to childhood obesity:

- “Insufficient Evidence” – many systematic reviews lack sufficient number of studies
- Quantitative reviews weak in generalizability summaries to target interventions and translate into other settings
- Lack clear direction for program and policy decisions

Tools to bridge the gap...



REPORTING CRITERIA FOR TRANSLATION

1. Settings & Individuals

- A. Inclusion and Exclusion Criteria: Are both 1) inclusion criteria and 2) exclusion criteria reported?
- B. Participation: Analyses of the participation rate among potential a) settings, b) delivery staff, and c) patients (consumers)?
- C. Setting Representativeness: Are comparisons reported on the similarity of settings participating to the intended target audience of program settings --or to those settings that decline to participate?
- D. Individual Representativeness: Are analyses reported on similarity and differences between those participating vs. those declining or to target population?

REPORTING CRITERIA FOR TRANSLATION

2. Program or Policy Implementation and Adaptation

- A. Consistent Implementation: Are data presented on the intervention variations during the evaluation/study?
- B. Staff Expertise: Are data presented on 1) the level of training required to deliver the program and 2) variation in extent of implementation by different staff?
- C. Program Customization or Adaptation: Is information reported on the ways different settings modified or customized the program to fit their setting?

REPORTING CRITERIA FOR TRANSLATION

3. Outcomes for Decision Making

- A. Significance: Are outcomes compared to standards of best practices and their associated public health goals?
- B. Adverse Consequences: Do outcomes report potentially negative effects?
- C. Moderators: Are there analyses of 1) different subgroups of participants and 2) types of settings--to assess robustness?
- D. Program Intensity: Are data reported on the total amount of staff time or patient/consumer contact time required?
- E. Costs: 1) Are data on the costs presented?

REPORTING CRITERIA FOR TRANSLATION

4. Time: Maintenance and Institutionalization

- A. Long-term Effects: Are data reported on longer-term effects, at least 12 months following intervention?
- B. Institutionalization: Are data reported on the sustainability of program after the formal evaluation or study?
- C. Attrition: 1) Are data on attrition by condition reported, and 2) are analyses conducted of representativeness of drop-outs?

PURPOSES

- Evaluate extent that external validity dimensions are reported in behavioral interventions for childhood obesity
- Conducted systematic review of treatment studies for already overweight or obese children



Study Methods

- Childhood obesity treatment interventions published 1980-2004, n=56 treatment studies
- Inclusion Criteria:
 - Child or adolescent sample (≤ 18 yrs)
 - Anthropometric outcome (1^o or 2^o): e.g., BMI, Body Fat
 - Control or Comparison condition (could be non-randomized)
 - Health behavior target of nutrition, physical activity and/or lifestyle
- Exclusion Criteria:
 - Non-English language publication
 - Designed as feasibility study
- 2 Trained, independent reviewers coded each study
- Analyzed % of studies reporting criteria

Summary of Treatment Studies

- Study Sample Characteristics
 - 34% - 19 long-term (\geq 1-yr in duration)
 - 16% - clinic or medical setting
 - 14% - research setting
 - 11% - school-based
 - 5% - other (church., home, mixture)
 - 54% - unknown
- 84% - targeted diet and physical activity
- 9% - targeted physical activity or sedentary behavior
- 7% - targeted diet/nutrition education only

Percent of Studies Reporting on Settings And Participants

<u>I. Settings and Populations</u>	<u>%Reporting</u>
<u>Individual Level</u>	
Individual inclusion/exclusion	86
Participation rate	43
Representativeness of participants	9
<u>Setting Level</u>	
Setting inclusion/exclusion	5
Participation rate: settings	2
Representativeness of settings	0
<u>Delivery Staff</u>	
Participation rate	2

Percent of Studies Reporting on Implementation & Adaptation

<u>II. Program Implementation & Adaptation</u>	<u>% Reporting</u>
Consistent implementation of program	11
Staff expertise or training	54
Implementation differed by staff	0
Program adaptation	57

Percent of Studies Reporting on Outcomes for Decision Making

<u>III. Outcomes for Decision Making</u>	<u>%Reporting</u>
Outcomes compared to standard goal	7
Adverse Consequences	16
Effect moderator by participant characteristic	45
Effect moderator by staff/setting	5
Program intensity	100
Costs	2

Percent of Studies Reporting on Follow-up & Maintenance

<u>IV. Time: Maintenance & Institutionalization</u>	<u>% Reporting</u>
Long-term effects (at least 12 mo.)	34
Program Sustainability (12 mo. after last eval.)	0
Attrition Rate	79
Differential attrition by condition	11
Drop-out representativeness	9

Implications

- Particular weaknesses in reporting:
 - Representativeness of participants, settings
 - Program implementation elements
 - Attrition – differences, representativeness
 - Costs & sustainability
- Feasibility supported by exemplar articles that reported most elements

Conclusions

- It's not as difficult as you think...
- Reformation in reporting
 - Large potential benefit for systematic and quantitative reviews
 - Provide contextual evidence for decision-making – “evidence to action”



Context for Decision-Making

Who participated? Were they typical?

Will the approach likely work when used in other settings? With other participants?

Were relevant outcomes produced?

What resources were needed to implement the approach?

Was program adapted or allowed to vary?

How long did effects last?

Reporting Elements

Participants & Settings – 1) Eligibility framed to show the degree to which included are typical; 2) # approached, # eligible, and reasons for nonparticipation

Intervention – 1) Describe resources needed for implementation; 2) whether intervention was allowed to vary; 3) explicit description of comparator

Outcomes – 1) Explain relevance of outcomes; 2) length of follow-up chosen

Generalizability – 1) Describe key aspects of settings that determined outcome; 2) Discuss possible differences in other settings that may vary from current trial