A School Nurse-Delivered Intervention for Overweight and Obese Adolescents: Lessons Learned

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School Nurse-Delivered Intervention for Overweight and Obese Adolescents: Lessons Learned

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Children’s Hospital Boston

MA Dept Public Health/School Health Unit

School Health Settings: School Nurses Administrators
Feasible, accessible weight loss treatment approaches for OW/OB adolescents are needed

Systematic review for USPSTF (Whitlock et al, 2010) found moderate/high intensity interventions can ↓ weight, BUT GAPS:

- targeted younger children
- conducted in specialty health care settings with limited reach (accessibility, cost) and public health impact
School nurses in the school health setting have tremendous potential for public health impact on adolescent obesity.

- Primary health professional in school setting
- Accessible and continuous care

Professional organization (NASN) cites role of school nurse is to assist regarding diet, physical activity and weight and provide obesity treatment.

Adolescents Attending School: 95%

School Nurses in HS:
- Full Time
- Part Time
Methods to test feasibility of 6-session school nurse-delivered intervention

Pair-matched cluster RCT
(6 high-schools, n=84 OW/OB teens)

Counseling Intervention (LGFG)
5-3-2-1-0; SCT

Information and Contact Control

2-month follow-up
(100% retention)

6-month follow-up
(100% retention)
The intervention was feasible for nurses to deliver.

- Protocol content covered: 97%
- Protocol and materials very helpful: 100%
- Not at all difficult to incorporate into daily work: 75%
- Ability to Counsel:
  - Effectiveness: 3.5
  - Confidence: 3.5
The intervention engaged teens and had high acceptability

- **Very Helpful**
  - Intervention: 98%
  - Control: 71%

- **Very Comfortable**
  - Intervention: 88%
  - Control: 62%

- Nurse perceived teens very receptive
  - Intervention: 75%

Legend:
- Intervention
- Control
The 6-session intervention improved selected self-reported behaviors but not BMI
Lessons learned.....

Childhood obesity. Don’t take it lightly.

Food Stamps can help. Call 1-888-328-3483 to see if you qualify.

my kinda shoppin’ spree
Identifying their adolescent health concerns/priorities:
- OW/OB among teens
  - Fit their mission and responsibilities
- Engaged administrators to support nurse in this role
Adaptation of intervention to setting and population requires close collaboration and mutual respect of unique contributions.

UMMS researchers and nutritionists
- Empirical evidence, treatment recommendations (CDC)
- Theoretical frameworks
- Intervention design expertise
- Evaluation skills

School Health Unit/School nurses
- Experience caring for OW/OB teens
- Understand work flow, feasibility in school setting
- Current practice/style
- Skills and credibility to deliver health-related counseling

Focus groups with OW/OB teens, their parents, school nurses, school staff and administrators

JOINT INTERVENTION DESIGN WORKING GROUP: LGFG

Pilot testing – work out kinks
Train community interventionists based on core competencies needed; conduct with community partners

**Knowledge**
- Scope of problem
- Recommendations (diet, PA, SB)
- Theoretical framework, counseling approach

**Skills/confidence**
- Protocol review and demonstration
- Practice with feedback
- Implementation “tips from the field” (barriers and tested strategies), brainstorm

**Motivation**
- Compatibility with mission, job responsibilities
- Evidence underlying protocol
Factors facilitating implementation and sustainability occur at multiple levels

**School Administration**
Fit mission (education/health of students)
Did not interfere with academic classes
See as school nurse role/job

**School Nurse**
Compatible with role/mission
Confident in ability to conduct intervention
Intervention protocol and materials clear, easy to use (high fidelity)
Teen comfort/acceptability reinforced delivery

**OW/OB Teens**
High acceptability- very comfortable talking with nurse re: weight
Perceived helpfulness
Non-interference with academic classes facilitated session adherence
Easily access nurse without parental involvement, transportation or cost
Barriers to implementation and sustainability occur at multiple levels → identify, address and/or study

<table>
<thead>
<tr>
<th>BARRIER</th>
<th>SOLUTIONS/RESEARCH DIRECTIONS</th>
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<tbody>
<tr>
<td><strong>School</strong></td>
<td>• Reinforce benefits (improved health → academics), address concerns</td>
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<td>Sustaining institutional support</td>
<td>• Engage school staff to support efforts</td>
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<td><strong>Lack of PA opportunities</strong></td>
<td>• After school exercise program – <strong>LGFG-E</strong></td>
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<td><strong>School Nurse</strong></td>
<td>• Resources to protect time for intervention delivery (e.g., floating nurse)</td>
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<td>Time/conflict with other duties</td>
<td>• Group format, maximize nurse time – <strong>LGFG-G</strong></td>
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<tr>
<td><strong>Ongoing delivery</strong></td>
<td>• Incorporate into performance evaluation</td>
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<tr>
<td><strong>OW/OB Adolescent</strong></td>
<td>• Process to let students know of program</td>
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<td>Participation</td>
<td>• Identify and address barriers to participation</td>
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<tr>
<td><strong>Lack of social support for weight loss efforts</strong></td>
<td>• Group format – <strong>LGFG-G</strong></td>
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<td>• Social networking technology – <strong>LGFG-G</strong></td>
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“Snow White was poisoned by an apple, Jack found a giant in his beanstalk, and look what happened to Alice when she ate the mushroom! And you wonder why I won’t eat fruit and vegetables?!”
Theoretical Framework for Intervention

Counseling Intervention
- 1:1 Sessions

Instruction and Guidance
- Dietary, PA and SB recommendations
- Strategies for self control

Social Support
- Encouragement from school nurse

Social Modeling
- Strategies used by other teens in Student Booklet

SCT Constructs Fostering Behavior Change

- Self-Efficacy
- Knowledge
- Behavioral Capability
- Self-Control
- Outcome Expectations

Weight-Related Behavior Changes

- Improved dietary quality
- Increased PA
- Decreased sedentary behavior

Decreased BMI/Weight