Parent-Mediated Approach to Child Obesity Treatment in Primary Care: Findings from the ETSU PLAN Study

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Objectives
• Describe evidence-based approaches to treatment of child overweight and obesity.
• Summarize results of the ETSU PLAN study.
• Relate information discussed to child obesity management for the primary care setting.
Staged Treatment Approach

Prevention Plus
- 5 2 1 0
- Reassess in 2-3 months

Structured Weight Management
- Written diet and exercise plans (RD consult)
- Monthly follow-up

Comprehensive Multidisciplinary Intervention
- MD, dietician, exercise and behavioral specialists
- Weekly follow-up

Tertiary Care Intervention
- Consideration of more aggressive therapies including meal replacements, pharmacotherapy, and even bariatric surgery in selected adolescents

Behaviors to Target in Obesity Treatment
- 5 - 9 Fruits & Vegetables/Day (ME)
- 2 hours or less of screen time (CE)
- 1 Hours PA/Day (ME)
- 0 Sugar-Sweetened Drinks (ME)
- Allow child to self-regulate (CE)
- Reduce eating out (ME)
- Eat at the table as a family 5-6 times/week (ME)
- Consume a healthy breakfast daily (ME)

Evidence-Supported Approaches
- Involve the whole family in behavior change (CE)
  - Brief Motivational Interviewing
  - Target parents for children < 12 years
- Behavioral approaches - i.e. environmental control, goal-setting, monitoring, contingency management (CE)
- Suggest tailoring interventions based on cultural values
- Weekly visits for 8-12 weeks most efficacious (CE)
- Chronic Care Model - parent self-management support, group visit delivery design (CE), decision-support tools

Expert Committee Levels of Evidence
- CE=Consistent Evidence
- ME=Mixed Evidence
- Suggest=Committee also Suggests

References:
  [http://pediatrics.aappublications.org/cgi/reprint/120/Supplement_4/S254](http://pediatrics.aappublications.org/cgi/reprint/120/Supplement_4/S254)
  [http://www.improvingchroniccare.org/index.php?n=The_Chronic_Care_Model&sc=2](http://www.improvingchroniccare.org/index.php?n=The_Chronic_Care_Model&sc=2)
For which of the following child obesity treatment approaches is there consistent evidence of efficacy?

1. Use of basic manipulative interviewing 0%
2. Primarily targeting parents of children <18 yrs 0%
3. Behavioral approaches 0%
4. Both 1 and 3 0%

Case

• 5-year old Michael presented with his mother for well-child check

Based on Michael's parent questionnaire, what behavior would you most like to target for change?

1. Fruit and vegetable intake 0%
2. Frequency of eating out 0%
3. Frequency of snacking 0%
4. Amount of juice consumed 0%

Having mom keep water or low-fat milk on hand for Michael to drink instead of juice boxes is an example of:

1. Goal setting 0%
2. Environmental Control 0%
3. Monitoring 0%
4. Contingency Management 0%
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Primary Care Research Study

In Memoriam:
Tiejian Wu, MD, PhD
1962-2011

Purpose: Evaluate a parent-mediated approach utilizing brief motivational interviewing and group visits to treat child (ages 5-11 years) overweight and obesity in the primary care setting.

ETSU Study Personnel

- Principal Investigator (Epidemiologist): Tiejian Wu, MD, PhD
- Co-Investigator (Pediatrician): Karen E. Schetzina, MD, MPH
- Co-Investigator (Psychologist): William T. Dalton, PhD
- Co-Investigator (Family Physician): Fred Tudier, MD
- Registered Dietician: Ai-Leng Ho, RD
- Project Coordinator: Hazel F. Robinson, B.S.
- Graduate Research Assistants (GRAs): Nicole Holt, MPH, DrPH Candidate, others
- Statistician: Matt McBee, PhD

PLAN Study Design

Sample/Population: Overweight / obese patients 5-11 years & their parents

Funded by NIH with ETSU IRB oversight
All Participants Received: Parent Handbook

**Intervention Schedule**
- Wk 1: Group session 1
- Wk 2: Phone call 1
- Wk 3: Group session 2
- Wk 4: Phone call 2
- Wk 5: Group session 3
- Wk 6: Phone call 3
- Wk 7: Group session 4*
- Wk 8: Phone call 4
- Wk 9-10: 2nd individual visit

*Note: One make-up group session was offered

**Intervention Training for Clinic Providers**
- For Individual Visits
  - Online Brief Motivational Interviewing (Brief MI) Overview
    - [www.etsu.edu/com/pccoi](http://www.etsu.edu/com/pccoi)
  - Face-to-face training in use of Brief MI and the 15-Minute Obesity Prevention Protocol from the American Academy of Pediatrics
- For Group Visits
  - Online We Can! Training
- For Phone Calls (project staff) – brief MI style

**Parent Group Visits Used the NIH We Can! Curriculum**
- **Session 1: Overview**
  - Why overweight is an important issue
- **Session 2: ENERGY BALANCE**
  - Introduces concept of achieving ENERGY IN=ENERGY OUT
  - Explores issues of portion size and time spent in daily physical activity
- **Session 3: Strategies for reducing ENERGY IN**
  - Explores how to cut back on fat and added sugar
- **Session 4: Strategies for improving ENERGY OUT**
  - Helps participants increase physical activity and reduce screen time
Study Measures

- Child BMI, BMI percentile, and zBMI
- Parent survey responses compared before and after intervention
- Focus groups conducted with providers in intervention clinics

Sample Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Control (n=39)</th>
<th>Intervention (n=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grandparent</td>
<td>89.7%</td>
<td>89.3%</td>
</tr>
<tr>
<td>Age</td>
<td>35 years</td>
<td>37 years</td>
</tr>
<tr>
<td>Highest Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS or less</td>
<td>69.2%</td>
<td>53.6%</td>
</tr>
<tr>
<td>Race/Ethnicity</td>
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<td></td>
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<tr>
<td>White</td>
<td>89.7%</td>
<td>89.3%</td>
</tr>
<tr>
<td>TennCare</td>
<td>84.6%</td>
<td>50%</td>
</tr>
<tr>
<td>Child Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>59%</td>
<td>57.1%</td>
</tr>
<tr>
<td>Age</td>
<td>8.6 years</td>
<td>8 years</td>
</tr>
</tbody>
</table>

- Total participants = 67
- 23 out of 28 parents completed intervention (82%)
- 55 families completed three-month FU (82%)
- 46 families completed six-month FU (69%)

Preliminary zBMI Results

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Control (n=39)</th>
<th>Intervention (n=28)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 month</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>3 month</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>6 month</td>
<td>2.6</td>
<td>2.7</td>
</tr>
</tbody>
</table>

Preliminary Results (Cont’d):

Significant Change in Intervention Group

- Significant (p<0.05) improvements were reported in:
  - Parent opinions about role of parents/family in child’s eating, physical activity, and screen time behaviors
  - Parent knowledge of nutrition, physical activity, and screen time
  - Parent-reported likelihood of making healthy changes in nutrition/eating and screen time during the next 30 days.
- Providers in the focus groups found many aspects of the training and intervention to be acceptable and feasible for the primary care setting
Objectives

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Individual Visits Using Brief Motivational Interviewing (MI)

• MI is a directive, client-centered counseling style for helping patients explore and resolve ambivalence about behavior change.

• MI is versatile and can be used in “brief” interactions (i.e., often referred to as “Brief MI”).

*References available upon request

Applications of Brief MI

• Weight loss
• Improving diet
• Increasing physical activity
• Diabetes management
• Medication/treatment adherence
• Many others

Stages of Change
How Brief MI Works

• Recognizes behavior change as a process
• Individuals are considered to be in different stages of behavior change
• Assists individuals in moving through stages via a combination of a strong patient-provider relationship and specific techniques that encourage patients to discuss the possibility of behavior change

During which stage of change is planning and commitment for change secured?

1. Precontemplation 0%
2. Action 0%
✓ 3. Preparation 0%
4. Maintenance 0%

Brief MI Characteristics

• Directive
• Client-centered
• Honors autonomy
• Counseling style
• Resolve ambivalence
• Evocative
• Collaborative
• Minimizes resistance
• Offers acceptance

Brief MI Guiding Principles and Foundational Clinical Skills

• Guiding Principles
  – Express empathy
  – Develop discrepancy
  – Roll with resistance
  – Support self-efficacy
• Foundational Clinical Skills
  – Open-ended questions
  – Affirmations
  – Reflective listening
  – Summarizing
Which of the following foundational skills refers to the use of statements that are supportive and highlight strengths to build self-efficacy?

- 1. Affirmations 0%
- 2. Open-ended questions 0%
- 3. Reflective listening 0%
- 4. Summarizing 0%

What is the best way to deal with or respond to patient resistance?

1. Simply give a prescription 0%
2. Confront the patient’s resistance 0%
3. Offer advice 0%
4. Reflect the patient’s words or feeling 0%

Additional Clinical Tools of Brief MI

- Additional Clinical Tools
  - Setting an Agenda
  - Assessing Readiness to Change
  - Developing Discrepancy

Setting an Agenda

- Ask permission to discuss a specific topic
  - “May we discuss your child’s weight today?”
  - “Would you be willing to spend a few minutes discussing your child’s weight?”
  - “Are you interested in discussing ways to stay healthy and energized?”
- Ask parent to name an area of concern with the help of a menu of options
  - “There are several topics we could discuss related to your child’s/family’s health. For example, eating patterns, amount of physical activity or time spent watching television or using electronic devices, or even others. What is of most concern to you?”
Assessing Readiness to Change

- Use of Rulers and Scaling
  - Two useful tools for assessing and enhancing patient readiness for health behavior changes are the Importance and Confidence Rulers
  - Both on a 11-point scale
    - 0 = least importance or confidence
    - 10 = most importance or confidence
  - Scaling or follow-up questions may be used to facilitate change talk

Assessing Importance

- “On a scale of 0 to 10, with 10 being ‘very important,’ how important is it for you to reduce the amount of fast food he eats?”
  - Reflect patient’s answer
    - “You chose ____.”
  - Ask follow-up questions
    - “Why did you not choose a lower number?”
    - “Why did you not choose a higher number?”
    - “What would it take to move to an _____?”

Assessing Confidence

- “On a scale of 0 to 10, with 10 being ‘very confident,’ assuming you decided to change the amount of fast food he eats, how confident are you that you could succeed?”
  - Reflect patient’s answer
    - “You chose ____.”
  - Ask follow-up questions
    - “Why did you not choose a lower number?”
    - “Why did you not choose a higher number?”
    - “What would it take to move to an _____?”

Developing Discrepancy

- Pros/Cons of Behavior Change
  - Allows patients to list the pros and cons of changing or of not changing health-related behaviors, and then to assign subjective weights (of importance) to each
  - “Tell me some good and not so good things about your child’s/family’s health behavior.”
  - “Let’s list together and discuss the pros and cons of not changing your child’s/family’s behavior. Afterwards, let’s list together and discuss the pros and cons of changing behavior.”
Developing Discrepancy

• Values and Current Behavior
  – What do you value most? How does your child’s/family’s current lifestyle fit in with that?
    • “On the one hand you value a healthy family and on the other hand your child has excess weight and his/her diet is poor?”
    • “So where does that leave you?”

Values List

• Values for You
  □ Good parent
  □ Responsible
  □ Disciplined
  □ Good spouse
  □ Respected at home
  □ On top of things
  □ Spiritual
  □ Others: ____________

• Values for Your Family
  □ Cohesive
  □ Healthy
  □ Peaceful meals
  □ Getting along
  □ Spending time together
  □ Others: ____________

What guiding principle refers to inquiring about patient values and how these fit with current behavior?

1. Express empathy
2. Develop discrepancy ✔
3. Roll with resistance
4. Support self-efficacy

Case: Brief MI Video/Audio Demonstration

• Brief Motivational Interviewing to Reduce Body Mass Index DVD (2009)
  – MI With Parent Of An Overweight Child Who Regularly Eats Fast Food
Using the AAP 15-Minute Obesity Prevention Protocol

- Step 1: Assessment
- Step 2: Agenda-Setting
  - Example from video?
- Step 3: Assess Motivation and Confidence
- Step 4: Summarize and Probe Possible Changes

Step 1: Assessment

- Goals
  - Assess weight status, parent concerns, eating and activity behavior
  - Provide positive and neutral feedback
  - Reflect and probe to facilitate parent’s active reflection and discussion
- MI Techniques
  - Open Ended Questions, Affirmations, and Reflective Listening

Step 2: Agenda Setting

- Goals
  - Agree upon a specific behavior change to discuss during the rest of the encounter
- MI Techniques
  - Summarizing to assist in setting an agenda

Step 3: Assess Motivation and Confidence

- Goals
  - Here you are assessing readiness to change
- MI Techniques
  - Use of rulers and reflective listening
Step 4: Summarize and Probe Possible Changes

- **Goals**
  - Summarize and probe possible changes identified by the parent
- **MI Techniques**
  - Summarizing, Identifying Specific and Realistic Goals, and Affirmations
  - Develop Discrepancy: Pros/Cons of Behavior Change (may use tool in chart) or Values and Current Behavior to facilitate further conversation

Step 5: Schedule Follow-Up

- Suggest following up in _____ weeks/months to see how things went or continue discussing concerns in effort to develop discrepancy

Questions/Discussion

Resources:
- schetzin@etsu.edu
daltonw@etsu.edu