Using the Transtheoretical Model of Change to Promote Physical Health and Emotional Wellness Among Children and Adolescents Who Struggle with Weight Management

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Overweight Children, ages 2-4 years

Obese Children, ages 2-4 years
Girls: Overweight

Boys: Overweight
Critical Issue

About 40% of overweight children will continue to have increased weight during adolescence

75–80% of obese adolescents will become obese adults

The consequences of this disease starting in childhood may be more severe as the duration of obesity will be longer

**Psychosocial**
- Eating disorders
- Poor self-esteem
- Social isolation and stigmatization
- Depression

**Neurological**
- Pseudotumour cerebri
  (Idiopathic intracranial hypertension)

**Cardiovascular**
- Hypertension
- Dyslipidaemia
- Coagulopathy
- Chronic inflammation
- Endothelial dysfunction

**Pulmonary**
- Exercise intolerance
- Obstructive sleep apnea
- Asthma

**Gastrointestinal**
- Gallstones
- Gastro-oesophageal reflux
- Non-alcoholic fatty liver disease

**Renal**
- Glomerulosclerosis

**Musculoskeletal**
- Ankle sprains
- Flat feet
- Tibia vara
- Slipped capital femoral epiphysis
- Forearm fracture

**Endocrine**
- Insulin resistance
- Impaired fasting glucose or glucose intolerance
- Type 2 diabetes
- Precocious puberty
- Menstrual irregularities
- Polycystic ovary syndrome (females)
Type 2 Diabetes

The rate of new diagnosed cases of type 2 diabetes rose most sharply in Native Americans (8.9 percent), Asian Americans/Pacific Islanders (8.5 percent) and non-Hispanic blacks (6.3 percent).

The rate of new diagnosed cases of type 2 diabetes increased 3.1 percent among Hispanics. The smallest increase was seen in whites (0.6 percent).

The rate of new diagnosed cases of type 2 diabetes rose much more sharply in females (6.2 percent) than in males (3.7 percent)

Psychosocial Issues

Depression

Lower scores on health-related quality of life

Emotional and behavioral disorders

Low self-esteem

Stigma

Teasing

Bullying

Contributing Factors

Eating high-calorie, low-nutrient foods and beverages

Sedentary activities such as watching television or other screen devices

Sleep routines

Stress

Not getting enough physical activity
Key Guidelines for Children and Adolescents

- Children and adolescents should do 60 minutes (1 hour) or more of physical activity daily.
  - Aerobic: Most of the 60 or more minutes a day should be either moderate- or vigorous-intensity aerobic physical activity, and should include vigorous-intensity physical activity at least 3 days a week.
  - Muscle strengthening: As part of their 60 or more minutes of daily physical activity, children and adolescents should include muscle-strengthening physical activity on at least 3 days of the week.
  - Bone-strengthening: As part of their 60 or more minutes of daily physical activity, children and adolescents should include bone-strengthening physical activity on at least 3 days of the week.

- It is important to encourage young people to participate in physical activities that are appropriate for their age, that are enjoyable, and that offer variety.
58% of children (6-11 yo) and 92% of adolescents (12-15 yo) do not meet PA guidelines (Troiano, 2008)
...Doing the same thing over and over again and expecting a different result...
Transtheoretical Model of Change

Intentional behavior change

Views change as a process rather than an event

The change process is characterized by a series of stages of change

In attempting to change a behavior, a person typically cycles through the stages of change

Why is it so effective?

-Because it recognizes that people in different stages of change need different types of interventions to help them progress.
Transtheoretical Model of Change

Prochaska & DiClemente, 1983; Prochaska, DiClemente, & Norcross, 1992
Stage One: Precontemplation

Not considering making a change within the next 6 months (or ever)

“I don’t have a problem”

“I’ll deal with it later”

“My child is not overweight”
Stage Two: Contemplation

Seriously considering making a change within the next 6 months

“Maybe I should change…”

“I would like to change…”

“Maybe she’s right…”

“I’ll think about it”

“Maybe after his growth spurt”
Stage Three: Preparation

Making plans to change within the next 30 days

“I want to change, so I need to…”
Stage Four: Action

Engaging in the changed behavior for at least 6 months

- Nutrition education
- Increased physical activity
- More sleep
- Reduced stress
Stage Five: Maintenance

Have met goal and maintained new behavior for at least 6 months
Stage Six: Termination

Goal met, behavior permanently changed
However...

Most people live in maintenance, or most likely cycle back to a previous stage
What to do first?

Identify the stage of change that you, or the person you are helping, are in.

- Precontemplation
- Contemplation
- Preparation
- Action
- Maintenance
- Termination
Use techniques to propel to next stage...

1. Cognitive

-information processing that goes on inside people's minds, including perception, attention, language, memory, thinking, and consciousness

   I know that eating a doughnut will not help me lose weight. If I eat it then I will have energy only for a short time, and I will feel bad

2. Behavioral

   Eating the doughnut or not eating the doughnut
What else affects ability to change?

- Decisional Balance

Janis and Mann (1977)
Decisional Balance

- Precontemplation stage, the pros in favor of behavior change are outweighed by the relative cons for change and in favor of maintaining the existing behavior.

- Contemplation stage, the pros and cons tend to carry equal weight, leaving the individual ambivalent toward change.

- If the decisional balance is tipped however, such that the pros in favor of changing outweigh the cons for maintaining the unhealthy behavior, many individuals move to the Preparation or even Action stage.

- Maintenance stage, the pros in favor of maintaining the behavior change should outweigh the cons of maintaining the change in order to decrease the risk of relapse.
What else?

Self-Efficacy

(Bandura, 1977, 1982)
Cognitive Strategies

<table>
<thead>
<tr>
<th>Cognitive Activity</th>
<th>Process of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Complete a family tree of obesity and obesity-related diseases</td>
<td>Consciousness</td>
</tr>
<tr>
<td>2. Watch “Supersize Me” video</td>
<td>Consciousness</td>
</tr>
<tr>
<td>3. Complete a log of duration of time spent engaged in sedentary activities</td>
<td>Self-evaluation</td>
</tr>
<tr>
<td>4. List the pros and cons of overweight and inactivity</td>
<td>Self-evaluation</td>
</tr>
<tr>
<td>5. Identify activities that prohibit, or that are performed instead of, physical activity</td>
<td>Environmental reevaluation</td>
</tr>
<tr>
<td>6. Identify cues to not engaging in physical activity</td>
<td>Environmental reevaluation</td>
</tr>
<tr>
<td>7. Identify recommendations for physical activity and compare to the current level of physical activity</td>
<td>Self-evaluation</td>
</tr>
<tr>
<td>8. Identify choices that can increase the level of physical activity</td>
<td>Environmental reevaluation</td>
</tr>
<tr>
<td>9. Identify the actual and desired BMI</td>
<td>Self-evaluation</td>
</tr>
<tr>
<td>10. Identify the impact of obesity on social functioning</td>
<td>Self-liberation</td>
</tr>
<tr>
<td>11. Identify approaches to increasing physical activity</td>
<td>Environmental reevaluation</td>
</tr>
<tr>
<td>12. Identify perceptions of weight and physical activity</td>
<td>Self-evaluation</td>
</tr>
<tr>
<td>13. Understand classification of activities into various levels of physical activity</td>
<td>Consciousness raising</td>
</tr>
<tr>
<td>14. Identify one friend who maintains a “healthy” or “active” level of physical activity</td>
<td>Environmental reevaluation</td>
</tr>
</tbody>
</table>

# Behavioral Strategies

## Table 2. Behavioral Intervention Strategies

<table>
<thead>
<tr>
<th>Behavioral Activity</th>
<th>Process of Change</th>
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</thead>
<tbody>
<tr>
<td>1. Interact with others who engage in “healthy” eating and activity patterns</td>
<td>Stimulus control</td>
</tr>
<tr>
<td>2. Read all food labels before eating foods</td>
<td>Counterconditioning</td>
</tr>
<tr>
<td>3. (Grocery-store) scavenger hunt for favorite and healthy foods</td>
<td>Counterconditioning</td>
</tr>
<tr>
<td>4. Eat foods according to the food guide pyramid</td>
<td>Stimulus control</td>
</tr>
<tr>
<td>5. Eat ‘healthy foods’ in a fast-food restaurant</td>
<td>Counterconditioning</td>
</tr>
<tr>
<td>6. Document eating of new healthy foods</td>
<td>Counterconditioning</td>
</tr>
<tr>
<td>7. Plan for dealing with situations where “unhealthy” foods are likely to be eaten or when physical activity decreases (vacation)</td>
<td>Self-fulfillment</td>
</tr>
<tr>
<td>8. Plan a meal according to the food guide pyramid</td>
<td>Counterconditioning</td>
</tr>
<tr>
<td>9. Set goals for diet, weight, and physical activity</td>
<td>Counterconditioning</td>
</tr>
<tr>
<td>10. Document progress toward goals (public display)</td>
<td>Stimulus control</td>
</tr>
<tr>
<td>11. Provide rewards for achieving milestones toward goals</td>
<td>Reinforcement</td>
</tr>
<tr>
<td>12. Reduce barriers to physical activity</td>
<td>Counterconditioning</td>
</tr>
<tr>
<td>13. Compare current and previous diets and physical activity behaviors</td>
<td>Self-fulfillment</td>
</tr>
<tr>
<td>14. List realized benefits of increased physical activity and diet change</td>
<td>Self-fulfillment</td>
</tr>
<tr>
<td>15. Make a number of plans on how to engage in fewer sedentary activities</td>
<td>Self-fulfillment</td>
</tr>
</tbody>
</table>
Put it all together

On-Going Research at Southeastern: Project IPAL (Interactive Physical Activity Lab)
Nutrition Education
Questions?

Additional References


