REDUCTION OF CHILDHOOD OBESITY VIA WEB-BASED PROGRAMS.

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Disclosure

- **Authors:**
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- **Learner objective:** Discuss effectiveness of web-based programs to decrease childhood obesity

- We have no conflict of interest and received no sponsorship, financial or commercial support.
Childhood Obesity

Background:

- Childhood obesity is one of the most serious public health challenges of the 21st century, particularly in urban settings. The prevalence has increased at an alarming rate globally. (The International Obesity Taskforce (IOTF 2011).
- IASO estimate that up to 200 million school aged children are either overweight or obese, of those 40-50 million are classified as obese.
Childhood Obesity

- Health Risk: Childhood obesity is associated with a higher chance of obesity, premature death and disability in adulthood (WHO 2009)
- If overweight begins before eight years of age, obesity in adulthood is likely to be more severe. (An, J., et al, 2009).
- Overweight and obesity now ranks as the fifth leading global risk for mortality.
Childhood Obesity

Economic burden:

- Direct medical costs of obesity include preventative, diagnostic and treatment services related to overweight and associated co-morbidities.

- European nations spend 2-8% of their health care budgets on obesity, equating to 0.6% of gross domestic product (GDP). (Müller-Riemenschneider, et al 2008).

- In the USA, estimates based on 2012 data indicated that overweight and obesity account for $147 billion in total medical expenditure (Finkelstein et al, 2012). This is an increase from 2000 for $117 billion.
Childhood Obesity

- Technology has become part of our children’s life in the last decade; providing the foundation to a large number of daily activities.

- The popularity of social media and technology among our school-age children may assist in providing a fruitful hub for treatment, intervention, and prevention efforts to address childhood obesity.
Next Steps

Focused Clinical Question
P-school aged children 6-18 years
I- technology
C-current standard of care
O- decrease in obesity AEB decrease in BMI, waist circumference and decrease in percentage body fat
Review Results

Potentially relevant papers identified by comprehensive literature search
n= 4,058

Papers excluded after evaluation of title and abstract
n= 4,019

Papers retrieved for detailed examination
n= 39

Papers excluded after review of full paper
n= 27

Papers assessed for methodological quality
n= 12

Papers excluded after assessment of methodological quality
n= 0

Papers included in the systematic review
n= 12
<table>
<thead>
<tr>
<th>ARTICLES</th>
<th>INTERVENTION</th>
<th>BMI</th>
<th>BMZ</th>
<th>WAIST CIRCUM.</th>
<th>WEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Celio, 2005</td>
<td>The intervention included cognitive-behavioural weekly programme targeting behavioural weight loss and body image improvement, weekly newsletter with personalized feedback and asynchronous discussion group; and online health education materials related to food, weight loss, body image and physical activity.</td>
<td>(++)</td>
<td>(++)</td>
<td>N/A</td>
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<tr>
<td>Chen, 2011</td>
<td>The web based program consisted of activities to enhance self-efficacy of adolescents and facilitate their understanding and use of problem solving skills related to nutrition, physical activity and coping.</td>
<td>(- -)</td>
<td>(- -)</td>
<td>(++)</td>
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<td>Doyle, 2008</td>
<td>A 16-week, internet delivered program which incorporated cognitive-behavioral techniques.</td>
<td>(- -)</td>
<td>(+ +)</td>
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<td>Ezendam, 2012</td>
<td>A computer tailored intervention was made assessable through the internet consisting of 8 modules addressing issues of weight management and energy balance-related behaviors. Computer-tailored education included: increase physical activity, reduce sedentary lifestyle, increase fruits, vegetables and whole wheat bread and reduce sugar beverages.</td>
<td>(- -)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
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<td>Jago, 2006</td>
<td>473 participants aged 10 to 14 year-old boy scouts from Houston, Texas, USA were recruited from 42 boy scout troops. Participant received a 9 week internet program to increase physical activity, self efficacy and goal-setting during 2003.</td>
<td>(+ +)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
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<td>Jones, 2008</td>
<td>The program combined psych education and behavioral interventions including self-monitoring, goal setting, awareness of appetite triggers. The on-line interactive program involved journals of a diet log, weight, physical activity and personal thoughts and goals.</td>
<td>(+ +)</td>
<td>(+ +)</td>
<td>N/A</td>
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<tr>
<td>Williamson, 2005</td>
<td>The internet based behavioural intervention consisted of nutritional education and internet counselling behaviour modification program that targeted the lifestyle, physical activity and eating habits of the specific information such as recipes for food commonly eaten by African Americans.</td>
<td>(+ +)</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Williamson, 2006</td>
<td>Same as Williamson, 2005</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
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<tr>
<td>O’Donohue, 2011</td>
<td>The control condition received web-based psych education plus individually tailored, family based, behavioral weight control skills training.</td>
<td>N/A</td>
<td>(- -)</td>
<td>N/A</td>
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Discussion

• Web-based interventions: positive impact
• Parental involvement
• Face-to-face interaction
• Culturally sensitive interventions
Limitations of Review

- Small sample size
- Lack of insight on cultural impact
- Short study interval
- Long term sustainability
- Adherence rate
Implication for practice

- Promising (short-term) outcomes for web-based intervention
- Further support needed for:
  - Parental involvement
  - Reinforcement/reminders to increase adherence
  - Face-to-face counseling
Implications for Research

- Longer studies (> 24 months)
- Larger sample size
- Impact on parental involvement
- Impact due to culturally tailored interventions
Questions?
References


References

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