ABSTRACT
A study was conducted to determine the efficacy of a guided active play (GAP) program to elicit improvements in maximal oxygen consumption (VO₂ max) in children aged 8-12. The program ran for 8 weeks (1h/d;5d/wk) with health and fitness assessments taken pre- and post-intervention. Physical/Physiological maturity status were estimated from multiple linear regression equations linking anthropometric variables. VO₂ max improved by 4.3% for all children, with girls > boys. In general, a relationship was observed between physical/physiological maturity status and improvement in VO₂ max. GAP programs have the ability to elicit improvements in VO₂ Max.

RESULTS/ DISCUSSION

Table 1: Maximum Oxygen Consumption Changes from Guided Active Play

<table>
<thead>
<tr>
<th>Percent Improvement</th>
<th>Total</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>VO₂ Max.</td>
<td>4.3 ± 8.1</td>
<td>2.7 ± 9.2</td>
<td>5.8 ± 6.9</td>
</tr>
</tbody>
</table>

Table 2: Maximum Oxygen Consumption Changes from Literature

<table>
<thead>
<tr>
<th>Initial peak VO₂</th>
<th>Prepubertal</th>
<th>peak VO₂</th>
<th>Δpeak VO₂ (%)</th>
<th>[range]</th>
</tr>
</thead>
<tbody>
<tr>
<td>(mL/kg/min)</td>
<td>(mL/kg/min)</td>
<td>(mL/kg/min)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;50</td>
<td>44.7</td>
<td>5.9</td>
<td>[-7.6 to +20.5]</td>
<td></td>
</tr>
</tbody>
</table>

CONCLUSIONS

Comparable improvements in VO₂ max are attainable using GAP
• 4.3% improvement
• Sex and physical/physiological maturity status were observed to be significant confounding variables

BACKGROUND

Prevalence of childhood obesity is reaching epidemic levels
Declining physical activity levels are associated with lower health and fitness
Physical activity levels can be increased using laboratory and “boot camp” style interventions
Influence of sex and physical/physiological maturity status relative to puberty

OBJECTIVE

Examine the efficacy of a guided active play program (GAP) in eliciting changes in maximal oxygen consumption (VO₂ max) for children

METHOD

Intervention:
• Summer camp in local community center setting
• 8 Weeks (1h/d;5d/wk),
• Intensity set by games
• 5 Children were guided by 1 Undergraduate Student

Assessments:
• VO₂ max measured pre- and post- GAP
• Physical/Physiological maturity status estimated from multiple linear regression equations linking anthropometric variables

Study Participants:
• N=69
• 50% Overweight or Obese (≥85th Percentile) using BMI Classification

CONCLUSIONS

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