Take 10! & EIM in China

Opportunities and Challenges in Promoting Physical Activity and Wellbeing Among Chinese Population

Zhengxiong Yang
ILSI Focal Point in China
Decreasing intensity and dose of professional labor in China

Manual agricultural

Mechanization agricultural
More and more people go out by car.
Watching television cost two hours per day in adult in China.
The Proportion of regular exerciser in China

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Physique Monitoring (2005)</td>
<td></td>
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</tbody>
</table>

Age Group (years)
Take 10! – An Elementary School-based Physical Activity Intervention
What is Take 10?

- A classroom–based physical activity program
- 10–minute segment physical activity
- Diversified PA forms
- Moderate–vigorous activity
The aims of Take 10

- To reduce sedentary physical activity during school day among children.
- To promote physical activity level among children.
- To enhance the skill of children to do physical activity and help them develop a healthy lifestyle.
- To improve the health of children.
Steps for Take 10 program develop and promotion in China

- Launching and Pilot Study: 2 elementary schools in Beijing; 2003-2004
- Extension: 50,000 children from 150 elementary schools in 9 provinces; 2007-2010
- Implementation of policy: Included in the "Healthy Lifestyle for All"; 30 provinces; 1600 elementary schools
Launch of Take 10! In 2003
First step: Pilot study of Take 10!

Objective

To develop Happy 10 for Chinese children, including materials and implementation mechanism

Subjects

750 children from 2 elementary schools in Beijing: one is study school, the other is control school.

Implementation

- Classroom-based activity segment led by classroom teacher.
- Brief, moderate- to vigorous repetitive movements
- At least once a school day
## Energy expenditure and intensity of each ‘Take 10’ session

<table>
<thead>
<tr>
<th>Grade</th>
<th>Person times</th>
<th>Intensity (kcal/kg/h)</th>
<th>Energy expenditure (kcal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mean</td>
</tr>
<tr>
<td>1</td>
<td>90</td>
<td>5.8</td>
<td>26.0</td>
</tr>
<tr>
<td>2</td>
<td>68</td>
<td>5.7</td>
<td>33.0</td>
</tr>
<tr>
<td>3</td>
<td>101</td>
<td>6.2</td>
<td>37.9</td>
</tr>
<tr>
<td>4</td>
<td>34</td>
<td>5.4</td>
<td>30.6</td>
</tr>
<tr>
<td>5</td>
<td>73</td>
<td>4.8</td>
<td>32.6</td>
</tr>
<tr>
<td>Total</td>
<td>366</td>
<td>5.6</td>
<td>32.3</td>
</tr>
</tbody>
</table>
# Intervention effect on physical activity after 1-year intervention

<table>
<thead>
<tr>
<th></th>
<th>Intervention (n= 328)</th>
<th>Control (n= 425)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-</td>
<td>Post-</td>
</tr>
<tr>
<td><strong>PA Energy expenditure (kcal/d)</strong></td>
<td>420.4</td>
<td>498.3</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td>149.8</td>
<td>189.6</td>
</tr>
<tr>
<td><strong>Vigorous</strong></td>
<td>251.1</td>
<td>279.6</td>
</tr>
<tr>
<td><strong>PA hours (h/wk)</strong></td>
<td>19.6</td>
<td>23.4</td>
</tr>
<tr>
<td><strong>Moderate</strong></td>
<td>8.1</td>
<td>10.7</td>
</tr>
<tr>
<td><strong>Vigorous</strong></td>
<td>7.9</td>
<td>9.8</td>
</tr>
</tbody>
</table>

* Significant difference between pre- and post- intervention
# Significant difference of changes after prevention between intervention school and control school
Attitude towards ‘Take 10’ from teachers and students (%)

<table>
<thead>
<tr>
<th></th>
<th>Teachers</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like the program</td>
<td>78.8</td>
<td>78.9</td>
</tr>
<tr>
<td>Easy to implement</td>
<td>75.7</td>
<td>–</td>
</tr>
<tr>
<td>Recommend to other teachers</td>
<td>75.7</td>
<td>–</td>
</tr>
<tr>
<td>Benefit to students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical health</td>
<td>97.2</td>
<td>76.2</td>
</tr>
<tr>
<td>Improve concentration</td>
<td>75.8</td>
<td>67.6</td>
</tr>
<tr>
<td>Mental health</td>
<td>94.1</td>
<td>86.2</td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participating actively</td>
<td></td>
<td>85.3</td>
</tr>
<tr>
<td>Keeping active during each session</td>
<td></td>
<td>94.1</td>
</tr>
<tr>
<td>Do ‘Take 10’ at other times</td>
<td></td>
<td>Often: 25.7; Sometimes: 71.4</td>
</tr>
</tbody>
</table>
Social supports

- Experts visiting
- Take 10! Show
- Knowledge competition on Nutrition, physical activity and Health
- Media reports
- As the part of “Health campus action in China”
What is good intervention program?

- Easy to generalize
- Effective
- Sustainable
Objective
To evaluate the effect of Take 10 program on body composition, obesity prevention and lipid profiles

Participants
About 4700 children from 20 schools in Dongcheng and Chongwen district, Beijing:
- 10 intervention schools
- 10 control schools

Intervention
- Implementing Take 10 twice a school day for one year
- Follow up without intervention for one year
Intervention effects

- The increase of weight, BMI, BMI z score and fat mass was lower in intervention group than control group during both intervention period and follow-up period.
- Percentage of children who maintain or reduced their BMI z score was higher in intervention group, especially girls.
- The change of BMI z score in obese children was more significant. No significant change in BMI z score in underweight children was found.
- The increase of TG and HDL was lower in intervention group. And the changes in TG and HDL was more evident among children who gained more BMI.
Effect of Happy 10 on mental health

- **Class level:** Interview among teachers (n=15)
  - Active
  - Harmonious
  - Cohesive
  - Glad

- **Individual level:** Interview among teachers (n=15)
  Focus group discussion among students (n=96)
  - Shy → Open
  - Introverted → Extroverted
  - Pessimistic → Optimistic
  - Unconfident → Confident
  - Depressive → Bright
Conclusion

- Happy 10! is simple and easy to generalize
- Happy 10! is effective on both physical and mental health
- Modest intervention effects persist during the second year of follow-up
“Take 10” promotion
(2003–2006)
“Take 10” promotion
(2007–2010, 9 provinces)
“Take 10” promotion (2011, 30 provinces)
Plan

- Extended range, primary school – middle school
- From Passiveness To Activeness
- To explore in Different groups of people and places
Take 10 material kits
Grade-specific manuals
Recording poster

DVD for teachers

Sticker
<table>
<thead>
<tr>
<th>课程</th>
<th>星期一</th>
<th>星期二</th>
<th>星期三</th>
<th>星期四</th>
<th>星期五</th>
</tr>
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积极参加 充分想象

"快乐10分钟" 是一个以班级为基础的，由教师组织学生在教室内开展的，每次持续10分钟的活动，内容以游戏为主的身体活动促进项目。

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e-mail：codingxy@163.com

真诚期待您的参与

我运动 我健康 我快乐

运动使我健康 我快乐

快乐10分钟益处多

增强体质，易于开展

绘画折纸，提高知识

师生互动，快乐成长

锻炼身体，提高健康

长期坚持，学习更棒

运动使我健康 我快乐

快乐10分钟
EIM in China

Progress and Highlights in China

ILSI - Focal Point in China

Exercise is Medicine

www.ExerciseIsMedicine.org
Grand Launching of “Exercise is Medicine (EIM) in China”
(June 17, 2012 Beijing)

- ILSI FP in China and ACSM signed the MOU for the Cooperation in Exercise is Medicine (EIM) in China.
- Congratulated and supported by MOH, China CDC and CISS (China Institute of Sport Science, General Administration of Sport).

- Objective: Providing advices for clinicians to offer patients with exercise prescription; and providing guidelines on scientific exercises for public.
EIM First training session for cardiologists in China
(June 16, 2012 Shijiazhuang)

- Organizers:
  ILSI Focal Point in China
  Chinese Society of Cardiology, CAM

- Attendees: 50 cardiovascular physicians from 11 provinces including Beijing, Shanghai, Guangdong, Xinjiang
Great Wall International Congress on CVD
Second EIM training course for cardiologists
（October 12, 2012 Beijing）

Organizers:
ILSI Focal Point in China
Chinese Society of Cardiology

Highlights: The training course took place during 23rd Great Wall International Congress of Cardiology and Asia Pacific Heart Congress, more than 40 cardiovascular physicians and reporters from media attended.
The training course took place during The 15th South China International Congress of Cardiology, more than 50 cardiovascular physicians attended. ILSI Focal Point in China was the co-organizer of the training course.

Dr. Wenhua Zhao, deputy director of ILSI-FP China, made a keynote presentation for the course. Dr. Keji Li, famous PA expert, introduced “the Guidelines for Physical Activity for Chinese Adults”
Highlights:

The EIM cardiologist training is of great significance and value in increasing clinicians awareness of prescribing physical activity in medical treatment and their professional skills, and has laid a solid foundation for strengthening the development of a team of professionals and trainers in this area.
EIM·China

- Media coverage (China Medical Tribune)
EIM · China

Media coverage (Chinese Cardiologist)
EIM promotion plans in China

- Proposed Activities
  - Establishing National EIM Task Force in China.
  - To compile EIM training materials for cardiovascular physicians, nutrition guide should be included.
  - Setting up training team for EIM training, which will mainly composed by cardiovascular physicians.
  - Organizing EIM training course in China.
EIM promotion plans in China

- **Partners**
  - China Institute of Sport Science
  - Cardiovascular Disease Society, Chinese Medical Association
  - Cardiovascular disease Society, Chinese Rehabilitation Medicine Association

- **Training platform:** “National Cardiovascular Health Action”
Thanks for your attention!