Promotion of Cardiovascular Health in Preschool Children: 36-Month Cohort Follow-up

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No disclosures
Background

- CVD leads to mortality worldwide / Colombia
- Lifestyle changes (diet, sedentary behaviour)
- CVD risk factors identifiable in childhood
- Age 3-5 years is a window of opportunity to effectively intervene for subsequent health behavior.
- Accordingly, our intervention targeted preschoolers

Setting

Low SES
Female led households

40 hours

Multicomponent Pedagogical strategy focused on key messages

Heart & Body awareness
Diverse & balanced nutrition
Physical activity

Children: 3-5 yrs
Endpoint: 6-8 yrs
Parents: 30.7 yrs

## Intervention

<table>
<thead>
<tr>
<th>Teachers</th>
<th>Children</th>
<th>Parents</th>
</tr>
</thead>
</table>

**INICIATIVA COLOMBINA POR UN CORAZÓN SALUDABLE**

**NOTAS SALUDABLES**

### Children
- Music and movement lessons
- Healthy eating and physical activity
- Mindfulness and relaxation

### Parents
- Parent-teacher workshops
- Healthy cooking classes
- Parent support groups

### Teachers
- Lesson plans
- Resource materials
- Professional development

### Benefits
- Improved student health
- Increased physical activity
- Enhanced social skills

### Resources
- Educational materials
- Physical activity equipment
- Nutrition guidelines

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**¿SABÍAS QUE...?**

- Pila con tus hijos
- Accesorios de cocina
- Recetas saludables
- Actividades sensoriales

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**Activity of the week:**

- Pila con tus hijos
- Accesorios de cocina
- Recetas saludables
- Actividades sensoriales
Combined RCT - Cohort follow up

Cluster RCT

14 clusters
305 school facilities

Cohort

Children
N=598

21 weeks

干预

Follow-up

Score (mean)

Baseline: May 2009
6 m: Nov. 2009
18 m: Nov. 2010
36 m: May 2012

干预

p<0.001
p=0.2
p<0.001
p<0.001

Follow-up
Study measurements - Outcomes

- Mean change on children’s KAH scores over time
- Change in children’s nutritional status

K: Cumulated sum of information acquired over time.
A: Learned predisposition to behave in a consistent way.
H: Learned responses which are regularly manifested (physical activity, etc).

Results - 1

36m-change in children’s KAH mean scores*

*0 – 100 scale
Adjusted by sex and age of children, group, socioeconomic status, age of parents, age and educational level of teachers.
Results - 2
36m-change Children’s Knowledge mean scores*

<table>
<thead>
<tr>
<th>Age (Years)</th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>16.70</td>
<td>10.60</td>
</tr>
<tr>
<td>4</td>
<td>10.60</td>
<td>13.20</td>
</tr>
<tr>
<td>5</td>
<td>4.80</td>
<td>10.50</td>
</tr>
</tbody>
</table>

* adjusted by age and sex covariates

Δ from Baseline

- 36 months
- 18 months
- Baseline
# Results - 3

36m-change Children’s nutritional status*

<table>
<thead>
<tr>
<th>Nutritional status</th>
<th>Baseline (%)</th>
<th>18 months (%)</th>
<th>36 months (%)</th>
<th>p value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>15.5</td>
<td>12.3</td>
<td>3.3</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Eutrophic</td>
<td>62.1</td>
<td>64.6</td>
<td>75.0</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Overweight / obese</td>
<td>22.4</td>
<td>23.1</td>
<td>21.7</td>
<td>0.7354</td>
</tr>
</tbody>
</table>

* % of Eutrophic

CDC growth charts BMI/age-sex:
- Underweight: -2 SD and < - 1 SD,
- Eutrophic: -1 SD and +1 SD,
- Overweight: > +1 and +2SD,
- Obese: +2SD
Results - 4

36m-change Parent’s KAH mean scores

Delta from Baseline: Knowledge:3.5, Attitudes:3.4, Habits: 2.7
Conclusions

- This pre-school based intervention maintains a positive change in children’s knowledge, attitudes and habits after 36 months.

- This study contributes to the mounting evidence for the effectiveness of similar interventions initiated at preschool years and could represent a critical period for cardiovascular health promotion.
Limitations

- Such projects are challenging due to the high migration of families and children moving to new schools.

- Because of the original significant benefit obtained on the intervened group, we were obliged to later deliver the interventional strategy to the control group, as well.

- There is limited data collection on dietary habits; this will be addressed in the follow-up program.