Promoting healthier food choices among children: an innovative strategy combining school and home gardens
Do school garden interventions contribute to healthier eating among children in low-income countries?
School gardens
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Strong evidence:
Improved awareness, knowledge, preferences for vegetables and fruits

Very weak evidence:
Increased consumption of healthy foods

The missing link
Healthier food items are unavailable
Children are not the ones making food choices
Hypothesis

So, would school gardens affect children’s food choices if vegetables were more available and parents had greater incentives to serve them?
Implementation

- Tested the idea as a pilot in Nepal
- Sindhupalchok District
- Established school gardens in 15 schools
- Provided home garden training to 450 parents
- Implemented in the 2018-2019 school year
52 Eligible schools  
Randomly selected 30 schools

Schools randomized (N=30)  
Stratified random assignment  
4 strata (altitude x teacher-student ratio)

Allocation/baseline

Treatment schools (N=15)  
Planned child/caregiver n=450 (15x30)  
Actual child n=438 (97.3%)  
Actual caregiver n=437 (97.1%)

Control schools (N=15)  
Planned child/caregiver n=450 (15x30)  
Actual child n=436 (96.9%)  
Actual caregiver n=436 (96.9%)

Endline

Treatment schools (N=15)  
Actual child n=410 (93.6%)  
Actual caregiver n=388 (88.8%)

Control schools (N=15)  
Actual child n=419 (96.1%)  
Actual caregiver n=394 (90.4%)

Analysis

Treatment schools (N=15)  
Actual child n=387 (88.4%)  
Actual caregiver n=338 (77.3%)

Control schools (N=15)  
Actual child n=392 (89.9%)  
Actual caregiver n=315 (72.2%)

Figure 1 Consort flow diagram for the study
Measurement

- Food and nutritional knowledge
- Food preferences
- Monthly food choices

Data were collected from children and parents at the start of the school year in June 2018 and one year later
Findings

- **Food and nutritional knowledge**: +26.4% over mean baseline levels for parents (p<0.01), but the effect for children was not significant.
- **Liking for vegetables** increased by 6.3% (p<0.01) for children and 10.2% (p<0.10) for their parents.
## Effects on food choice

**Proportion of meals eaten that included at least one vegetable**

<table>
<thead>
<tr>
<th>Period</th>
<th>Control (mean)</th>
<th>Treatment (mean)</th>
<th>Impact (ATE)</th>
<th>p-value</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline (June)*</td>
<td>0.32</td>
<td>0.29</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jul-Sep (Q1)*</td>
<td>0.26</td>
<td>0.24</td>
<td>0.01</td>
<td>0.620</td>
<td>4.0%</td>
</tr>
<tr>
<td>Oct-Dec (Q2)</td>
<td>0.26</td>
<td>0.27</td>
<td>0.04</td>
<td>0.084</td>
<td>15.1%</td>
</tr>
<tr>
<td>Jan-Mar (Q3)</td>
<td>0.25</td>
<td>0.29</td>
<td>0.07</td>
<td>0.017</td>
<td>25.9%</td>
</tr>
<tr>
<td>Apr-Jun (Q4)</td>
<td>0.22</td>
<td>0.25</td>
<td>0.06</td>
<td>0.088</td>
<td>25.5%</td>
</tr>
</tbody>
</table>

* Before start of the intervention
**Conclusion**

- **Importance of comprehensive intervention designs**—as opposed to school gardens as a standalone intervention—that aim to promote healthier food choices not just at the individual level, but at a household or community level.

- Hence, school gardens in low-income countries must not only try to influence children’s food preferences and food behavior, but also **make healthy food more available in children’s homes** and also nudge parents toward healthier food choices.
Drivers of Food Choice
Competitive Grants Program

Funders

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