Impact of a Seed-to-Table Gardening Program and Scratch-cooked Meals on School Lunch Consumption in Urban School Students

Pamela Koch, EdD, RD, Randi Wolf, PhD, Ian Ang, MA, Tyffanie Ammeter, BS, Heewon Lee Gray, PhD, RD, Claire Uno MLIS, Isobel Contenzo, PhD

Abstract

Objective: To assess the impact of a seed-to-table gardening program and scratch-cooked meals on school lunch consumption in urban school students. We also examined students’ attitudes toward the program.

Methods: We conducted an initial analysis of two groups of students who were randomized into a seed-to-table gardening program combined with scratch-cooked meals (intervention group) or a control group who continued to eat their usual meals (control group). We conducted paired t-tests comparing the intake percentages of foods brought from home between baseline (2013) and year 1 (2014) for students who had data for both years.

Results: Intervention group students included students who had grain and protein on their tray. We conducted independent t-tests, as there were not paired data for all students. We found that there was a significant increase in the percentage of students who had grain and protein on their tray in the intervention group compared to the control group.

Discussion: These results suggest that the seed-to-table gardening program and scratch-cooked meals may be effective in increasing the percentage of students who include grain and protein in their school lunches.

School Meals Overview

Table 1: Percentage of Students Who Had Meals on Their Tray and Percent of Meals That Students Brought from Home (at a lake at 10%)

<table>
<thead>
<tr>
<th></th>
<th>Students With Meals on Their Tray (%)</th>
<th>Students Using Grain and Protein (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline</td>
<td>84.8%</td>
<td>50.0%</td>
</tr>
<tr>
<td>Year 1</td>
<td>96.3%</td>
<td>78.9%</td>
</tr>
</tbody>
</table>

Table 2: Comparison of Lower and Upper Grades

<table>
<thead>
<tr>
<th></th>
<th>Lower Grades (%)</th>
<th>Upper Grades (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students With Meals on Their Tray</td>
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Meads & Coding Manual

Sample Coding Manual Pages

Limitations

1. There was a control group to compare with the students in the intervention school, but the control group if this control data would reflect the baseline levels of consumption. There was a lack of funding and it was not possible to conduct this analysis at the planned level.

2. We also limited the intake to the largest amount of missing data. From the school lunch room digital photography, only 177 students had complete data on all days of food intake. This was due to the logistics of capturing data from all students and the time constraints. Also, some students who were using a post-meal recall method did not have grain and protein on their tray.

Conclusions

Overall, the results from the school lunch intake data indicate that the students who are consuming the seed-to-table gardening program and scratch-cooked meals were more likely to include grain and protein in their school lunches. These results suggest that the seed-to-table gardening program and scratch-cooked meals may be effective in increasing the percentage of students who include grain and protein in their school lunches.

Recommendations

From these results, we would recommend continuing to collect these data for the next several years in order to track the trends. If there were an increase in the percentage of students who are consuming grain and protein, we would then recommend to the administrators to continue the seed-to-table gardening program and scratch-cooked meals.