Change in dietary intake among rural adolescents as a result of the BreakFAST group randomized trial.

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Introduction

Breakfast skipping contributes to poor diet quality among adolescents. This research evaluated whether altering breakfast-related school policies changed dietary quality among adolescents who were breakfast skippers.

Methods

Study Design:
Group Randomized Trial

Sample Size:
16 schools

Baseline screening among all 9th and 10th grade students (n=5,767) identified 44% of students that typically ate breakfast ≥3 times in a normal school week. From this group, a cohort of “breakfast skippers” was randomly selected (n=1253) and enrolled (n=904) for assessment. Analyses were limited to those with at least 1 weekday dietary recall at both baseline and follow up (n=572).

Sample description:
Adolescents from rural Minnesota, USA who reported skipping breakfast 3 or more times per week.

Intervention:
The intervention consisted of training students, teachers and staff to improve convenience (grab and go), timing (second chance breakfast) and awareness (marketing) of school breakfast distribution and eating options.

Instruments:
Survey of demographic characteristics

Analysis:
Healthy Eating Index-2010 was calculated. Change over time was compared between intervention and control group using Statistical Analysis Software (version 9.3, SAS Institute Inc., Cary, NC).

Results

School breakfast participation increased significantly more in the intervention compared to control group. However, breakfast consumption in the interventions schools did not reach ‘universal’ consumption. Therefore, although an improvement, this level of effect was not enough to show an effect on diet quality. Total energy (kcal/day) remained constant in the intervention group (pre & post=1725 kcal/day) and increased in the control (pre=1742 kcal/day; post=1848 kcal/day) although not statistically significant.

Table 1. Baseline characteristics among cohort students by condition, N=904 enrolled

<table>
<thead>
<tr>
<th></th>
<th>Overall N=904</th>
<th>Intervention N=463</th>
<th>Control N=441</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex, Females, (%)</td>
<td>54.3</td>
<td>54.9</td>
<td>53.7</td>
<td>0.74</td>
</tr>
<tr>
<td>Race, (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>69.1</td>
<td>63.7</td>
<td>74.8</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Non-White</td>
<td>30.9</td>
<td>36.3</td>
<td>25.2</td>
<td></td>
</tr>
<tr>
<td>Ethnicity, Hispanic or Latino, (%)</td>
<td>11.3</td>
<td>11.9</td>
<td>10.7</td>
<td>0.55</td>
</tr>
<tr>
<td>Age, mean (SD)</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
<td>0.06</td>
</tr>
<tr>
<td>Eligible for Free or Reduced Price Meals, (%)</td>
<td>36.6</td>
<td>37.0</td>
<td>36.2</td>
<td>0.82</td>
</tr>
<tr>
<td>Families get public assistance, (%)</td>
<td>13.1</td>
<td>12.9</td>
<td>13.4</td>
<td>0.85</td>
</tr>
</tbody>
</table>

* p value

Change in Healthy Eating Index score between baseline and follow up by condition

Diet quality, as measured using the HEI-2010, was not improved by the school breakfast intervention evaluated in this study. However, the intervention may have had a positive influence on fruit consumption (borderline significance).

Discussion

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Acknowledgements

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