ABSTRACT

Supporting Wellness at Pantries (SWAP) is a stoplight nutrition ranking system designed to assess and label the nutritional quality of food available in food pantries and help clients make informed choices. Foods are ranked as green (choose often), yellow (choose sometimes) and red (choose rarely). This cross-sectional repeated measures study tested the hypothesis that the nutritional quality of client selections at a single food pantry would improve after the pantry implemented SWAP. Client food selections were tracked before (n=121) and after (n=101) SWAP implementation. Regression analyses assessed changes in the proportion of “green” and “red” items in client shopping baskets. The findings indicate that there was a significant 11% increase in the proportion of “green” and a significant 7% decrease in the proportion of “red” foods after the SWAP intervention. These results suggest that the SWAP system can help food pantry clients shift their selections toward healthier options and away from less healthy options.

BACKGROUND

• Each year, the US food banking network serves about 46.5 million individuals with food insecurity.
• People living with food insecurity are at greater risk of diet-related chronic diseases.
• The Supporting Wellness at Pantries (SWAP) system is designed to increase the supply and demand for healthy food in pantries.
• SWAP combines:
  • Stoplight signage
  • Clear messages on items to choose “often”, “sometimes”, and “rarely”
  • Prominent placement of healthiest food

STUDY OBJECTIVE

To assess the nutritional quality of clients’ selections before and after implementing the SWAP system.

METHODS

Intervention: In one client-choice food pantry:
• All available food was categorized as green, yellow, and red based on SWAP guidelines for levels of saturated fat, sodium, and sugar.
• Food was arranged to highlight healthiest items available by placing them at eye level.
• New signage indicated which items to choose “often”, “sometimes”, and “rarely”

Data collection:
• Cross-sectional repeated measures design
• Baseline data was collected over 5 days during the two weeks prior to SWAP
• Follow up data was collected over 7 days between 3 and 5 weeks following SWAP implementation.
• Pantry inventory was assessed with a brief measure throughout the study.
• After shopping, pre-SWAP clients (n=121) and post-SWAP clients (n=101) completed a demographic survey and their food selections were catalogued.
• Food selections were placed into 8 food groups (fruits and vegetables; grains; protein; snacks; meals; beverages; condiments; and dairy)
• Each item selected was scanned with the WeilSCAN app to determine the SWAP ranking.

Analysis:
• For each client, the proportions of green and red selections were calculated for the total shopping basket and for each of the eight food groups.
• The pantry inventory for each food group and SWAP rank was rated using a 0-4 scale: None (no items)=0; Very Little (1 to 5 items)=1; Few (6 to 15 items)=2; Several (16 to 29 items)=3 and A Lot (30 or more items)=4.
• Regression analyses assessed the changes in food pantry inventory and changes in clients’ total selections while controlling for pantry inventory. Significance was set at p<0.05.
• Wilcoxon signed-rank test assessed changes in selection per food group. Significance was set at p<0.05.

RESULTS

Demographics of Participants Pre (n=121) and Post (n=101):
• Mean age = 54.5±17.2 SD.
• Majority were: Female (66.7%) and White, non-Hispanic (74.3%), with an annual income less than $20,000 (63.1%) and no children living in the household (74.5%).
• About half were the only adults living in the household and had no more than a high school level education.
• No significant differences between the demographics of the pre and post samples.

Pantry Inventory:
• There was a significant relationship between the number of items available and the nutrition rank (β=-3.06, p=0.003), indicating that there were more green items available than yellow items, and red items were the least common.
• There was not a main effect for time or an interaction between time and nutrition rank, indicating that comparable numbers of green, yellow and red foods were available during the pre-SWAP and post-SWAP weeks.

CONCLUSION

• Overall, the nutritional quality of the array of items clients selected at the pantry improved after SWAP was implemented.
• This study suggests that nutrition information provided through stoplight signage helps people choose healthier foods for themselves.

REFERENCES


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Clients’ Food Selection:
• There were significant shifts in client choices after SWAP with individuals selecting 11% more green items (β=0.11, SE=0.02, p<.0001) and 7% fewer red items (β=-0.07, SE=0.02, p<.0001).
• These findings were consistent when the model was adjusted to account for the inventory available each day.

Food Groups

<table>
<thead>
<tr>
<th>Count of Item</th>
<th>Per 100 Pantry Clients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Yellow</td>
</tr>
<tr>
<td>Red</td>
<td></td>
</tr>
</tbody>
</table>

Preliminary data were collected before (n=121) and after (n=101) SWAP implementation.