Traffic Light Nutrition Labeling: Implementation and Effects on Food Choices at a University Mobile Food Pantry

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Introduction
Traffic Light labeling (TLL) is one of the most studied concepts in food choice behavior (Misra, 2007; Seward et al., 2016; VanEpps et al., 2016). This color coding method has been found to be extremely beneficial in improving consumer’s food choices (Seward et al. 2016, VanEpps et al. 2016). The idea is to arrange food items by their nutritional value using a traffic light color coding scheme. Red indicates the unhealthiest items, yellow indicates healthier items, and green represents the healthiest items (Voss et al., 2013).

Objectives
The aim of this study is to determine if implementing the traffic light nutrition labelling at a campus mobile food pantry will influence participants to make healthier food choices. Objectives:

- To assess participants’ knowledge of food nutrients listed on the nutrition facts panel.
- To determine if the TLL encourage healthier food choices in campus food pantry settings.
- Assess the relationship between food insecurity/food security and food choices made based on the TLL.

Materials and Methods

- Three food pantry sessions and two detailed surveys (Household Food Security Survey Module and General Nutrition Knowledge Questionnaire) were used to collect data.
- Food items delivered to campus food pantries were labelled red, yellow or green based on sugar, carbohydrate and sodium content.
- Pantry goers were encouraged to participate and complete a survey; the target sample size was 100 participants.

<table>
<thead>
<tr>
<th>Parameters for Traffic Light Nutrition Labeling</th>
<th>Sugar</th>
<th>Sodium</th>
<th>Carbohydrates</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED</td>
<td>&gt;10g</td>
<td>&gt;140mg</td>
<td>&gt;20g</td>
</tr>
<tr>
<td>YELLOW</td>
<td>5g-10g</td>
<td>35mg-140mg</td>
<td>15g-20g</td>
</tr>
<tr>
<td>GREEN</td>
<td>&lt;5g</td>
<td>&lt;35mg</td>
<td>&lt;15g</td>
</tr>
</tbody>
</table>

*Based on the Recommended Dietary Allowance (RDA) values*

KEY:
- Three nutrients of the same color = that color
- Two nutrients in one color and one nutrient in a different color = the matching color of the two nutrients
- Three different color categories of nutrients = yellow

Data and Results

- A total of 112 participants were included in this study with 81% of participants reporting low or very low food security.
- Out of the 112, 55% of participants reported the TLL encouraged them to choose more green labeled items, 44% were surprised by which foods were labelled yellow or red and 37% of participants reported not feeling restricted in their food choices with labels present.
- Overall, 68% of participants found the TLL’s to be helpful and 38% would have still chosen the items regardless of its TLL (figure 1).
- The survey also included three questions based on reading a nutrition facts panel. Only 24% of participants answered all three of the nutrition facts panel knowledge questions correctly, the majority (63%) only answered 1-2 questions correctly.

Data and Figure 1: Perceived Influence of TLL on Participant Food Choice (%), n=112

- The TLL encouraged me to select green items: 55%
- I was surprised which foods were labelled red or yellow: 44%
- The TLL made me feel restricted in my food choice: 37%
- I would have still chosen the items regardless of its TLL: 38%
- Overall, I found the TLL helpful: 68%

Figure 1. Perceived Influence of TLL on Participant Food Choice (%), n=112

Implications
Implementing and assessing traffic light nutrition labelling at campus food pantries has the potential to allow students to make informed nutrition choices by being able to assess the level of key nutrients in their food.

Conclusions

This study found that traffic light nutrition labels encouraged participants to chose healthier items. The TLL’s also made participants more aware of their food choice, regardless of whether they still chose the healthier item or not. The TLL’s did not make subjects feel restricted in their food choice, rather, the TLL gave them an idea of what was healthiest and least healthy.

Acknowledgements and Citations

I would like to thank Meg Long, Jesse Haas and the Aggie Cupboard.


Overall, 68% of participants found the TLL’s to be helpful and 38% would have still chosen the items regardless of its TLL (figure 1).

Data and Figure 2: Perceived Influence of TLL on Participant Food Choice Among Participants With Low/Very Low Food Security (%), n=112

- The TLL encouraged me to select green items: 39%
- I was surprised which foods were labelled red or yellow: 22%
- The TLL made me feel restricted in my food choice: 29%
- I would have still chosen the items regardless of its TLL: 23%
- Overall, I found the TLL helpful: 46%

Figure 2. Perceived Influence of TLL on Participant Food Choice Among Participants With Low/Very Low Food Security (%), n=112