EFNEP Nutrition Education Improves Food Security and Diet Quality in Low Income Populations

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Background

Food insecurity and low socioeconomic status are associated with poor diet quality. Consuming a nutritious diet and maintaining a healthy lifestyle is difficult for food insecure and low-income people who face unique challenges due to limited access to healthy foods, ubiquitious fast food restaurants, and lack of transportation and inadequate knowledge to make healthy choices on a small budget. The Expanded Food and Nutrition Education Program (EFNEP) offers limited income families with children, hands-on interactive workshops to help participants improve food and physical activity behaviors and food resource management practices. EFNEP uses the Socio-Ecological Model as its theoretical foundation. One of the most common indicators of dietary quality is Healthy Eating Index (HEI), which provides an overall picture of the types of foods people eat, their compliance with specific dietary recommendations, and the variety in their diets. Food insecurity and diet quality concerns in the low-income population, since energy-dense foods tend to be less expensive than nutrient-dense foods. Evidence suggests that individuals’ level of nutrition knowledge influences their HEI Score. In this study, we examined the effectiveness of the EFNEP intervention on food security and overall diet quality in various race/ethnic population groups using Healthy Eating Index (HEI)-2010 score.

Methodology

- EFNEP participants (n=4457) from 2013-2016
- Limited income families with children
- 24 hour diet recalls
- Behavior checklist survey
- Pre and post test surveys administered by paraprofessionals
- Significance between each group was determined by Wilcoxon signed-rank test and differences among all groups by Kruskal Wallis test.
- Secondary analyses of de-identified data. Institutional review board was not required according to US Department of Health and Human Services guidelines.
- HEI 2010 as an indicator of diet quality
- Behavior practices related to food security and food resource management
- HEI 2010 as an indicator of diet quality

Outcomes

- Improvement in Diet Quality of All EFNEP Participants
- Healthy Eating Index by Race/Ethnicity
- Food Security from Pre to Post Nutrition Intervention by HEI Quarters

Conclusion

- Evaluation of Maryland EFNEP indicates that EFNEP was effective in improving the overall diet quality of participants, at least in the short term. The mean change in HEI-2005 score from entry to exit was 3.8 in Asian, 8.1 in Black, 8.2 points in Caucasian, 5.2 in multiple races, and 9.6 in Latino participants. With the exception of participants who identified themselves as Asian, all other participants from various race/ethnic groups spent less money on food and indicated an improvement in diet quality scores from entry to exit. This suggests that lessons taught by EFNEP nutrition educators are effective and that it is possible to achieve a healthy diet at low cost.
- Participants in the fourth quartile of the HEI -2010 with the healthiest diets were more food security improved participants food security and diet quality regardless of race/ethnicity.
- The 24-hour recall data was obtained in the community setting by trained paraprofessionals. The 24-hour recall data was obtained in the community setting by trained paraprofessionals.
- The results of the study may help to inform curriculum development and program evaluation. 24-hour recalls and the HEIs may be a tool that can be used to assess improvements in diet quality and efficacy of other nutrition education interventions.

Improvement in Diet Quality of All EFNEP Participants

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Pre HEI</th>
<th>Post HEI</th>
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<tbody>
<tr>
<td>Not Hispanic/Latino</td>
<td>52.9</td>
<td>60.6</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>59</td>
<td>68</td>
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