Research Article

Participant and Household Characteristics Associated With Graduation From the *Expanded Food and Nutrition Education Program*

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ABSTRACT

Objective: To examine empirically participant and household characteristics associated with *Expanded Food and Nutrition Education Program* (EFNEP) graduation and to determine whether they differ across 2 counties.

Design: Survey of EFNEP participants from 2011 to 2012.

Setting: *Expanded Food and Nutrition Education Program* sites serving limited-resource families in 1 rural and 1 urban/suburban county in Washington State.

Participants: *Expanded Food and Nutrition Education Program* participants (urban/suburban: n = 647; rural: n = 569).

Main Outcome Measure: *Expanded Food and Nutrition Education Program* completion/graduation.

Analysis: Multivariate logistic regression was used to examine associations of participant (ethnicity, race, age, education, pregnancy status, and nutrition knowledge/behavior at baseline) and household (number of people in the house, place of residence, and public assistance services) characteristics with EFNEP graduation.

Results: Associations were moderated by county. For the urban/suburban county, participants living with more people (after controlling for the total number of adults) were more likely to graduate. For the rural county, participants living with fewer total adults (after controlling for the total number in the house) and those with better food safety practices at baseline were more likely to graduate.

Conclusions and Implications: This study aids in understanding which participants are more or less likely to complete EFNEP successfully, and therefore can inform strategies aimed at increasing graduation rates.

Key Words: community health education, retention, demographic factors (*J Nutr Educ Behav*. 2016;48:453-460.)

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INTRODUCTION

Research shows that the home environment has a significant impact on young children's health and nutritional practices.[1-3] Therefore, nutrition education programs involving caregivers and their families that target high-risk populations are likely to have significant, long-term impacts on health and well-being.[4] Poor health and nutrition practices are particularly problematic for ethnic minority and low-income communities.[5,6] For example, Hispanic individuals living in the US have among the highest age-adjusted rates of obesity.[5,7] Accordingly, these populations are more susceptible to the physical, social, and psychological consequences associated with poor health.[8-10]

Nutrition Education Programs

The *Expanded Food and Nutrition Education Program* (EFNEP) is a federal program for limited-resource families of young children; according to EFNEP Program Policies 2013, the program

> *focuses on reaching the poorest of the poor by working through families to address the health disparities associated with some of our most pervasive societal challenges—hunger, malnutrition, poverty, and obesity.*[11]

The program's goals are to assist limited-resource audiences in acquiring the knowledge, skills, attitudes, and changed behavior necessary for a nutritionally sound diet, and to contribute to their personal development and improvement of the total family diet and nutritional well-being. Using a peer education model, EFNEP delivers a series of hands-on, interactive lessons

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focusing on the practical skills necessary to improve food and physical activity behaviors. In Washington, core content during this study included physical activity, dairy, protein, fruits and vegetables, whole grains, smart shopping, healthy snacks, fast foods, and portions; it also included review and discussion of specific benefits of a healthy diet and increased physical activity.

Data for 2013 Washington participants showed that after the program, 99% more closely followed the MyPlate recommendations,[12] including a daily increase in fruits and vegetables, 90% improved nutrition practices (eg, reading nutrition labels), 86% improved food management practices (eg, planning meals, shopping with a grocery list), 76% handled food more safely, and 46% increased their physical activity.[13,14] Findings of long-term studies in other states show sustained impacts up to 3 years after the program.[15-17]

Factors Associated With Program Completion

Although EFNEP recruits half a million limited-resource, high-risk families annually, significant logistical and situational barriers remain to program completion.[18,19] Few studies empirically examined this in EFNEP. Boyd and Windsor[20] found that being younger and less educated was negatively associated with completion in an adapted version of EFNEP for pregnant women. Other EFNEP researchers reported that lack of interest in learning about nutrition, low literacy levels, lack of transportation and child care, and conflicting work and family obligations were key challenges when working with limited-resource families.[18,19] However, those studies were limited because of small sample sizes and reliance on self-reported, perceived barriers.

A larger literature base documented predictors of retention in other types of prevention programs for caregivers of young children. In those studies, caregiver demographics and household characteristics were related to program attendance and completion.[21-24] For example, Coatsworth et al.[21,25] found that Hispanic individuals, compared with those of other ethnicities, were likely to attend programs consistently. Higher education and income, and living in smaller households were also positively related with program retention.[21,23,24,26] However, some research suggested that financial hardship was not a key determinant of participation.[27,28] Thus, work is still needed to better understand factors related to program completion in EFNEP and other behavioral health education programs aimed at limited-resource families.

The current study aimed to investigate further characteristics associated with program completion in a large sample of caregivers participating in EFNEP. Specifically, the study aimed to (1) examine how participant and household characteristics were associated with EFNEP graduation in 2 Washington State counties, and (2) determine whether the characteristics associated with graduation varied across counties (ie, were moderated by county). The researchers hypothesized that participants who were younger, were non-Hispanic, had lower levels of education, and lived in households with more people would be less likely to graduate from EFNEP. The remaining analyses were exploratory; the authors had no specific hypotheses regarding the relationship between EFNEP graduation and pregnancy status, place of residence, public assistance services, or baseline nutrition knowledge or behavior. The moderation analyses were also exploratory.

METHODS

Participants and Procedures

This research was reviewed and approved by the Washington State University institutional review board. Consistent with the national EFNEP protocol, all program data were entered into a national database to record and track participant information. Participants were limited-resource caregivers of mostly young children (aged < 8 years) residing in 2 counties in Washington State. To determine whether characteristics associated with graduation varied by population density, data from 1 rural and 1 urban/suburban county were analyzed. A total of 1,497 individuals participated in the group-based EFNEP curriculum in these 2 counties from 2011 to 2012. Of these individuals, 1,216 had graduation data and were included in this study (urban/suburban county: n = 647; rural county: n = 569).

Measures

Participant and household characteristics. Data on participant and household characteristics were collected with the program enrollment form. Participants self-reported ethnicity, race, age, education, and pregnancy status. For the analyses, ethnicity, race, and education level were dichotomized: 1 = Hispanic and 0 = non-Hispanic; 1 = white and 0 = non-white; and 1 = highest grade was 12, General Educational Development diploma, or higher and 0 = highest grade was ≤ 11, respectively. Participants also reported the number and age of children in the home, number of other adults in the household, place of residence (farm; town with < 10,000 residents; and rural non-farm, towns, and cities with 10,000–50,000 residents; suburbs of cities with > 50,000 residents; or central cities with > 50,000 residents), and participation in public assistance programs such as *Special Supplemental Nutrition Program for Women, Infants, and Children* and *Temporary Assistance for Needy Families*. The total number of assistance services was used in this study.

Nutrition knowledge and behaviors. A validated behavior checklist to gauge nutrition knowledge and dietary behaviors was also administered at baseline.[29,30] Ten items corresponded with the primary content areas of the program and formed 3 subscales: nutrition practices (eg, prepare food without adding salt), food resource management (eg, compare prices before buying food), and food safety (eg, let food sit out for > 2 hours). All items were ranked on a 5-point scale (1 = do not to 5 = almost always). Three negatively worded items (ie, let food sit out for > 2 hours, thaw frozen foods at room temperature, and run out of food before the end of the month) were reverse-scored such that higher scores reflected more positive behavior or knowledge. A total mean score was created for each subscale. Inter-item correlations for the food resource management items in the current study found a negative correlation between run out of food before the end of the month (reverse-coded) and compare prices