Impact of participating in the Expanded Food and Nutrition Education Program on Food Insecurity

Betty Greer, Associate Professor
Family and Consumer Sciences
Richard Poling, Associate Professor
Agricultural and Extension Education
University of Tennessee
December, 2001

Final report submitted for the Food Assistance Research Mini-Grant program, "Impact of participating in the Expanded Food and Nutrition Education Program on Food Insecurity," sponsored by the U.S. Department of Agriculture and the Southern Rural Development Center (SRDC).

Research objectives and policy relevance The objectives of this research were (1) to examine the relationship between food insecurity and participation in nutrition education; (2) examine the relationship between food insecurity and health status; and (3) determine factors associated with food insecurity.

Food insecurity is a social issue that impacts almost 10 percent of the total population but is much higher in low-income individuals (Nord et al. 1999). It is important to know if participation in nutrition education classes reduces the rate of food insecurity and whether food insecure individuals have poorer health status than food secure individuals.

Highlights of Previous Research During the past two decades considerable research has been conducted to develop a conceptual definition of food security, food insecurity and hunger (Anderson, 1990). A valid and reliable instrument was developed to measure the prevalence of this phenomenon (Anderson, 19909; Carlson, et al., 1999; Bickel et al. 2000; Frogillo, 1999).

Highlights of Research Methods Subjects in this study were an intervention group composed of individuals enrolled in the EFNEP program and a comparison or non-intervention group of subjects who were not enrolled but eligible for the EFNEP program, or enrolled but had completed no more than one lesson.

The food security classification of each participant was measured using the 18-item household food security questionnaire. Health status of the individual was determined by the response to a question in the survey that asks the respondent "Is your health in general: excellent, very good, good, fair or poor." County type was calculated using Tennessee census classification of rural and urban counties. Demographic variables collected in the interviews included race, age, educational level, participation in food programs, number of children, marital status, county type, gender and income.

Descriptive statistics for each variable was calculated and t-tests were used to determine if the two groups were significantly different from each other. To study which variables were associated with food security status, a logistic regression equation was constructed with food
security as the dependent variable. The independent variables entered into the equation were county type, race, age, educational level, participation in food programs, health status, number of children, marital status, gender and income. A forward logistic regression analysis was conducted to examine the point at which the independent variables enter the equation. Using logistic regression analysis, odds ratios were determined for variables that were included in the model.

**Findings** The majority of the subjects in the study were female and more than half lived in an urban community. The subjects were equally distributed by race.

The intervention and comparison groups were not significantly different from each other based on the demographic variables of race, gender, marital status, education, rural versus urban county, number of food programs in which they participate, and number of children in family. However, the intervention group was significantly older by an average of two years. The two groups differed significantly based on the food security score. The respondents who had participated in more lessons in the EFNEP educational program were more food secure than the respondents who had not yet started or who had just started participation in the EFNEP program.

A higher proportion of the subjects reporting good or better health were food secure while a higher proportion of the subjects reporting fair or poor health were food insecure. The majority of the subjects who reported excellent, very good or good health was food secure. But most of the subjects who reported fair or poor health were food insecure.

The variables that were significantly associated with food insecurity were health, income, nutrition education intervention, food program participation, and marital status. The subjects who had not participated in the EFNEP program were more likely to use food support programs and were half as likely to have excellent health status. When compared to married with spouse in the household, the divorced and separated households were about more likely to be food insecure.

**Discussion, including implications for food and nutrition assistance policy and/or future research** Based on findings in this study, participation in a series of nutrition education programs that teach basic nutrition, food resource management and basic cooking skills is related to a reduction in food insecurity. This study also found that subjects who are food insecure have poorer health status than food secure subjects. Health was the first variable that loaded into a forward stepwise logistic regression model and food insecure individuals with sever hunger were half as likely to report excellent health as food secure individuals. The exact nature of the association between food security and health status needs further study, but it is well established that poor diets contribute to poor health and that low-income individuals are at greater risk for poor health than higher income people.

The finding in this study support the need for multi-session nutrition education for low-income households, focusing on teaching basic nutrition, food shopping, and cooking skills. The impacts
of such programs can be increased food security for participants, better health, and more efficient use of food resources.

This study needs to be replicated in other nutrition education programs to determine if similar results are found or if there are other variables that contribute to the success of the program in decreasing food insecurity.

References:


