O21 (continued)

(252) most frequently with vegetables being least frequently self-served (172).

Results: Parents verbally communicated with children about food and nutrition and applied more Child Centered Nutrition Phrases when they were given education and guidance.

Conclusions and Implications: Preliminary results support education to reinforce adults verbal communication about nutrition, however continued study of adult use of CCNPs in home and child care settings is needed.

Funding: Clinical Translational Research Infrastructure Network.

O22 What Flavoring Ingredients do Low-Income Hispanic and Non-Hispanic Individuals Commonly Have?

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Objective: This study's objective was to compare the flavoring ingredients (i.e., herbs, spices, bouillons, salts and blends) available in low-income Hispanic and non-Hispanic households.

Design, Setting and Participants: This was a descriptive, closed-ended survey study. Participants were a convenience sample of low-income individuals (n=182), mostly women (n=141), recruited from and interviewed at, job training and GED programs, substance abuse recovery and family success centers, and houses of worship throughout NJ.

Outcome Measures and Analysis: Frequencies were calculated for demographic data, and the flavoring ingredients the participants "never," "sometimes" or "always" owned, with regards to the 34 flavoring ingredients assessed. Chi-squares and t-tests were used to compare the flavoring ingredients present in Hispanic and non-Hispanic households.

Results: Significant differences were found between the mean numbers of flavoring ingredients Hispanic (13.7+7.3) vs. non-Hispanic participants (10.8+6.0) kept on hand. At least 75% of all participants had both salt and garlic, while at least three-quarters of non-Hispanics also had black pepper vs. Hispanics who had cinnamon and adobo. Over 90% of both populations "never" or "rarely" had five-spice powder, sesame seeds or dill; while non-Hispanics also rarely had mint, hot peppers, cumin or cloves. There were significant ($p > 0.05$) associations between ethnicity and "sometimes" or "always" having particular flavoring ingredients on hand, with Hispanics more often having 12 of the flavoring ingredients and non-Hispanics more often having two others.

Conclusions and Implications: The flavoring ingredients found in low-income Hispanic and non-Hispanic households appear to differ by both type and number. Nutrition educators should be aware of these differences when developing recipes for their use.

Funding: Supplemental Nutrition Assistance Program - Education.

O23 Cooking With Kids in Rural Minnesota: Family Meals and Interest in Family-Focused, Community-Based, Healthful-Eating Programs

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Objective: Family meals are positively associated with healthier eating and potentially lower risk for childhood obesity. This study describes family meals among rural parents and assesses interest and barriers to attending a program similar to HOME Plus, a family-focused, community-based, family meals program, evaluated in an urban setting as part of a clinical trial.

Design, Setting and Participants: Parents of an 8-12 year-old child with a rural zip code based on Rural Urban Commuting Access Codes (RUCA) completed a brief on-line survey at the Minnesota State Fair. Parents (n=174) represented all three rural RUCA codes (isolated, small and large rural), had a mean age of 41 (SD=6.1) and were primarily white (89%) and mothers (81%).

Outcome Measures and Analysis: Chi-square tests and general linear models examined relationships between RUCA levels and family meal and program variables. Open-ended questions about healthful eating were summarized.

Results: Parents reported frequent family meals and cooking with their children; no significant differences by RUCA ($P's > 0.60$). Barriers to family meals and healthful eating included competing activities, time and cost; facilitators were meal planning, gardening and using farmers markets. Rural parents were interested in attending a family-meal focused, program, with most preferring in-person, week-night programming with an online component.

Conclusions and Implications: Similar to urban families participating in HOME Plus, rural families eat frequent family meals, involve their children in meal preparation, and are interested and likely to attend family-focused programming on healthful eating, cooking, and family meals. Programs like HOME Plus designed for urban families may be acceptable to rural audiences with few modifications.

Funding: National Institutes of Health.

O24 Breakfast Eating Habits and Nutritional Status of Primary School Children in Rural Areas of Anambra State, Nigeria

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Objective: To describe breakfast habits and nutritional status of primary school children in rural communities in Anambra State, Nigeria.

O24 (continued)

Design, Setting and Participants: The study was a descriptive cross sectional survey involving 358 primary school children aged 6-11 years old randomly selected from 5 public primary schools in Anambra State.

Outcome Measures and Analysis: A pretested interviewer administered questionnaire on dietary habits, breakfast consumption patterns and content of breakfasts was used. Height and weight were measured. Descriptive statistics and Chi square were performed using SPSS version 20.

Results: The average age of the children was 8.2 ± 0.7 years. Sixteen percent (16%), 27.4% and 20.6% were underweight, stunted and wasted, respectively. The percentage that reported eating breakfast ≥ 5 times per week was 71.2%, those who skipped cited waking up late (48.8%)

and lack of enough food in the home (43.8%). Breakfast was usually consumed at home by 90.6% of the children, while 5.4% ate on their way to school. Foods in the bread/cereal group and tea/cocoa beverages were commonly consumed for breakfast. The snacks brought to school were mainly pastry products (78.8%). The frequency of breakfasts consumed per week showed a significant relationship with weight-for-age ($X^2=8.424$; $p=0.04$), height-for-age ($X^2=7.664$; $p=0.02$) and BMI-for-age ($X^2=5.414$; $p=0.03$).

Conclusions and Implications: Although, most of the children were used to having daily breakfast, the study however underscores the need to further educate parents about the importance of giving healthful breakfasts to their children consisting a variety of foods needed for energy, growth and learning.

Funding: None.