

Impact of Child Nutrition Programs Offered in Schools on Daily Nutrition and Dietary Quality

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Objectives: The average Healthy Eating Index-2015 (HEI) score for children 2–17 years of age is 53.9 out of 100. HEI scores for dietary quality directly and positively impact children's health, academic performance, and their futures. Because school Child Nutrition Programs (CNPs) impact a large proportion of US children, it is important to evaluate these programs to determine the nutrition they are providing to children, as well as their impact on dietary quality. Thus, the purpose of this study is to determine the overall nutrition provided by the four CNPs that can be implemented consistently and collectively each school day [School Breakfast Program (SBP), National School Lunch Program (NSLP), Fresh Fruit and Vegetable Program (FFVP), and the Afterschool Snack Program (ASSP)] and to determine the dietary quality score achieved collectively by serving each of these four CNPs.

Methods: This cross-sectional content analysis included four-week sample cycle menus for each of CNPs offered to elementary-aged children. Sample menus for breakfast (SBP) and lunch (NSLP) were

actual cycle menus from the Cooking for Kids program. Sample menus for FFVP and ASSP were created by two researchers, who are CNP experts. Nutrient content was determined using nutrient analysis software. Dietary quality scores were determined using the HEI-2015.

Results: The proportion of daily nutrient needs met by the combined menus ranged from 0.15% to 403.7%, with an average proportion of 124.0%. The menus exceeded child daily nutrient needs for 18 of the 30 nutrients and met at least 50% of needs for 8 nutrients. The combined menus had an average 29.4-point (54.5%) higher HEI score compared to the average HEI score of the 2–17 year-old US child's diet ($p = 0.002$). Significant differences in HEI scores between the combined menus and the diet of the average US child included whole grains, dairy, added sugar, and total score favoring higher dietary quality in the combined menus ($p < 0.05$).

Conclusions: The results of the current study support why school districts should implement all four CNPs (SBP, NSLP, FFVP, ASSP) within their schools if possible, especially in low-income areas where children may not be provided with adequate nutrition outside of school, to provide children with the highest dietary quality meal patterns and to greatly contribute to children's daily nutrient needs.

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