The Evaluation of Dietary Programming of the Healthier Options for Public Schoolchildren (HOPS) Study: A school-based holistic nutrition and healthy lifestyle management program for elementary-aged children

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Purpose/Objective
One of the purposes of the Healthier Options for Public Schoolchildren (HOPS) Study is to test the feasibility and impact of implementing nutrition modifications to school-based meal offerings in elementary schools. The dietary programming is part of a larger set of lifestyle interventions that evaluate the efficacy of an integrated program of nutrition and healthy lifestyle educational curricula, which are modeled on schools’ expanded dietary offerings, increased levels of physical activity, and other school-based wellness projects with the goal of improving the well-being of children in a replicable manner. This research evaluates the dietary programming of HOPS focusing specifically on the nutrition composition of HOPS meals served in two HOPS school districts.

Study Design
The study design for 2004-2005 included 21 racially and ethnically diverse public elementary schools (17 intervention, and four control) in Florida and New York – a target population of approximately 15,000 students ages 5-11, including many who qualify for free or reduced priced meals in the United States Department of Agriculture (USDA) National School Lunch Program. HOPS began in Florida in the fall of 2004 and in New York in the fall of 2007. Intervention schools participate in nutrition and healthy lifestyle educational programming, as well as dietary and physical activity interventions, while control schools continue with traditional programming in these areas.

Dietary Intervention
HOPS dietary programming, which models classroom-based nutrition education, includes modified breakfast, lunch, and snack offerings. School’s are responsible for buying their own fruits and vegetables, and lose added sugars, while seeking within the confines of a traditional budget and existing food distribution networks. All HOPS menus meet USDA guidelines for school food service provision, and are created by the district foodservice departments.

Methodology
To evaluate the feasibility of replicating and expanding HOPS dietary programming into new school districts (Buffalo, NY; FL, PA, TX, OH), Oswego County, P.S. Sunnie Elementary; and the effect of HOPS’ socialization experienced when schools “cross-over” change intervention status (Oswego County to control; Oswego County to control Partial Settlement Elementary), two months of student production records from seven schools in two school districts were analyzed specifically on the nutrition composition of HOPS meals served in two HOPS school districts.

Buffalo School District Results

Breakfast: HOPS Compared to Control
During the month studied, HOPS breakfasts contained 14.69% more fiber than the control breakfasts (7.69g vs. 6.70g). HOPS breakfasts contained a 6.72% lower total calories than the control breakfasts (517.00 vs. 553.25). HOPS and control school menus, for the four week period, were below target with respect to the number of calories served.

Lunch: HOPS Compared to Control
HOPS lunches contained 13.05% less fiber than the control lunches (4.67g vs. 5.29g). HOPS lunches also contained 5.37% less saturated fat than the control lunches (6.44g vs. 7.15g) and 5.37% less saturated fat than the control lunches (6.44g vs. 7.15g). Both HOPS and control school menus were slightly below the calcium target on USDA school feeding guidelines.

Osceola School District Results

Breakfast: HOPS Compared to Control
During the month of February, HOPS breakfasts contained 20.52% more fiber than the control breakfasts (5.97g vs. 4.91g). HOPS breakfasts contained 31.45% more total fat (7.17g vs. 5.51g) and 10.04% more saturated fat than the control breakfasts (6.47g vs. 2.36g). Both HOPS and control breakfast menus, on average for the four week period, were underestimates based on USDA guidelines.

Lunch: HOPS Compared to Control
HOPS lunches contained 4.51% less fiber than the control lunches (6.47g vs. 7.07g). Additionally, HOPS lunches contained 14.79% more total fat (11.46g vs. 10.08g) and 11.55% more saturated fat than the control lunches (7.23g vs. 6.52g). Both HOPS and control lunches, on average for the four week period, were below target with respect to the number of calories served.

Conclusion

History and Socialization Effects
As mentioned above, HOPS began in the fall of 2004 for Osceola School District (OSD), whereas it only recently commenced in Buffalo Public School (BPS) (Fall 2007). Thus, OSD lessons more resemble an intervention phase while BPS appears to be in the programming phase regarding serving nutritional meals. OSD HOPS is largely fueled by new foodservice provider support. It is important to note that OSD schools may have a greater variety in their food choices, due to their food service provider, whereas BPS schools may have more limited options, due to the food service provider’s typical menu offerings. OSD schools may also benefit from the foodservice provider’s experience, since it is unknown whether OSD schools will experience the same menu changes as the original HOPS study, which experience modification of menus in schools with the first year schools in BPS had less robust nutrition analyses results and control menus included 1 cup of water and ½ cup of oatmeal. It is unknown as expected between intervention and control groups, when compared to previous analyses (1,2). Clinical differences could be attributed to higher adherence to the type of educational programming and control groups, when compared to previous analyses (1,2).

First-year Effect
As briefly described above, the “first-year” effect always plays a prominent role in the efficacy of public health nutrition interventions. Therefore, it is important to control for “first-year” variables in any study of this sort. The OSD schools received foodservice provider support, whereas in BPS schools, they did not. Foodservice provider support is crucial during the first years of HOPS.

Limitation
A limitation of this current analysis comes from the limited number of individuals assessed for under-caloric or over-caloric menus. This limited sample size may not have been representative enough to get a true indication of how the HOPS intervention was effective. HOPS intervention schools were further limited due to the size of the schools, which were not large enough to have a representative sample of their student population. This limitation is further emphasized by the fact that the number of students per school was relatively low, which may have impacted the variability of the results. As a result, the school’s nutritional status, which is likely to vary between children to adolescents.

References:


