HOPE2 Nutrition-focused Policy and Curricula Improve Consumption of Nutrient-rich Foods by Children, and Dietetic Practices (Menu Creation), in Elementary Schools

Danielle Hollar, PhD, MHA, MS, 1,2 Michelle Lombardo, DC,3 Caitlin Heitz, MS,3 T. Lucas Hollar, PhD4



Childhood obesity continues to be a major clinical and public health issue. Schools provide ideal settings to implement obesity prevention strategies to large and diverse pediatric audiences. Healthier Options for People through Extension (HOPE)2 is a 4-year (2009-2012), six-state (AR, FL, LA, MI, MS, and NM) prevention intervention with policy, nutrition, and physical activity components.



METHODS

HOPE2 is an elementary school-based obesity prevention intervention targeting ethnically diverse children in Kindergarten-5th grade. One component of the intervention included social marketing of, and experiential food opportunities regarding, nutrient-rich foods. Accordingly, educational activities teaching children and adults about nutrient-rich foods took place throughout the school, with a focus on activities in the school feeding areas/cafeterias. Elementary school foodservice (FS) managers completed FS surveys fall/baseline and spring/follow-up, assessing child consumption of nutrient-dense



foods (a targeted HOPE2 intervention in meals and educational curricula), use of federal feeding/nutrition programs, and collaborations with outside organizations in support of obesity-prevention policy changes. Thirty-eight (38) FS managers participated in 2010-2011 data collection.

RESULTS

Through USDA school feeding programs, schools are serving many nutrient-rich foods. In particular, the 38 FS respondents indicated their schools serve nutrient-rich foods, as part of government-funded programs, that model educational activities including skinless meats (94.7% 2010; 97.4% 2011), sweet potatoes (100.0% 2010; 97.4% 2011), and spinach (94.7 % 2010; 100.0% 2011).



Additionally, Spring 2011 FS Surveys show overall increased appreciation on the part of students, as perceived by foodservice staff, for nutrient-rich foods. Eighty percent agreed/strongly agreed students enjoy and consume fruits/fruit juice, skim/reduced milk, and whole grains. Nutrient-rich sweet potatoes, legumes, and spinach were least liked foods at baseline; but were more strongly preferred by follow-up (increases by 13.5%, 20.0%, and 12.5%, respectively; increase in preference for spinach significant at .05 level).

CONCLUSIONS

HOPE2 showed positive effects of nutrition components of obesity interventions in elementary schools resulting from policies and curricula that support such efforts — namely, increases in consumption by children and menuing of nutrient-rich items as part of government feeding programs (school-provided breakfasts, lunches, and snacks).













Item #	Food Preference as Described by Foodservice Personnel, Questions 1-12	Percent Agreeing/Strongly Agreeing		
		Fall 2010	Spring 2011	Change in Percentage from Fall to Spring
1	Children I serve like and eat fruits served at school.	94.7	94.7	0.0
2	Children I serve like and eat vegetables served at school.	73.7	81.6	7.9
3	Children I serve like and eat sweet potatoes served at school.	40.5	54.1	13.5
4	Children I serve like and eat unbreaded and skinless meat items (such as grilled chicken) served at school.	66.7	69.4	2.8
5	Children I serve like and eat whole grain items (such as bread, rolls, wraps, pizza crust, cereal) served at school.	94.7	81.6	-13.2
6	Children I serve like and eat legumes (such as black beans, lentils, kidney beans) served at school.	25.7	45.7	20.0
7	Children I serve like and eat cruciferous vegetables (such as broccoli, cauliflower) served at school.	62.2	64.9	2.7
8	Children I serve like and drink skim or reduced fat milk served at school.	78.9	86.8	7.9
9	Children I serve like and eat fish served at school.	76.3	73.7	-2.6
10	Children I serve like and eat spinach served at school.	28.1	40.6	12.5*
11	Children I serve like and drink 100% fruit juice served at school.	91.9	91.9	0.0
12	Children I serve like and eat a la carte items served at school.	85.3	79.4	-5.9

J P S Jackson Public Schools Elementary Lunch Menu September 2010								
Lunch Prices Full Price Student								
MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY				
Choice of One Entrie: 30 [bit Fifet on Wheat Bus Stala Seadwick Combo (Light Ham) Choice of Sole Dishes Crip Green Salad Meastern & Chees Inglish Pass Sliced Chilled Fusches Orange Dinner foot	Choice of One Entrie Turkey Roast to Corney Large Tons Saled Choice of Side Dollar Whipped Potatoes Seasoned Green Beams Buttered Carross Chilled Pear Halves Frach When Bells	Choice of One Entries Light Turker on Wheat Heral Chef Sahal Cheice of Sale Dinhes Sundwork Francesus Core on the Cob Fresh Historia wilamb Dip Frances Mixed Frant Cup Apple Sarrhet	Choice of One Entrice 2 WO Speaghers w Mord Sonce Large Chicker Solid Choice of Side Dishes Chips Group Stand Seasoned Lime Beam Mixed Vegrtables Disneapple Telbits Beamma Garlie Bread	Choice of One Entrice Will Corn Dog Grilled Chicken Solid Choice of Side Phishes Flace Tots Appleamen Flash Mixed Fruit Salad Nectrine				
Labor Day Holiday All Schools and Offices Closed	Choice of One Entric 7 Breaded Chicker Filter Purry Large Time Solid Chinice of Side Dishus Ching Green Sided Seasoned Victor Puns Sliced Apples Plant Constructed Wheat Roll Low Fait bee Cream Cup	Choice of One Entries 8 Wil-Pepperson Cheese Pices Chee Sulant Choice of Side Dishes Oring Green Sulant Steamed Froncoli Oven Baded Fronch Pries English Peas Peach Owney Bade Omney Bade	Choice of Une Entrie: 9 Baked or bried Checken Salad Sendwich Combo on Wheat Bread (Laght Turkey) Choice of Side Dibbes Butly Bake wo Grany Baked Boam Turnip Greens Brougher Tulbis Apple Conshead	Choice of One Entries I Serviced Sussage on Wheat than Grilled Chicken Salad Choice of Side Diobe. Whole Kernel Com Fresh Becoods with Sweet Potato French Fries Fruited Jello Baseries				
Parent/Teacher Conference Day No School for Students	Clusice of Unit Entrie 14 Strak Fragers Chicken Cayser Salad Choice of Side Dishrs Over Baled French Fries Blackeye Fran Camel Stricks w Dip Fronce Mikoul Frait Cup Apple Combrand Wasta Boil	Cheice of Om Entrie 15 Wei Checken Terrazzasi Chei Salad Choice of Side Disthes Cusp Green Benan Mixed Vegetables Appleamor Fran Grafe Bread	Choice of One Entrie: 16 Cheese burger on Wheat Hon- Salad Stanlerich Combe (Laght Ham) Choice of Side Philhes Tare Tols English Pous From Halves Creange Stansbury Issuen Fruit Jaior Cup	Choice of One Entrie - WG Turkey Sourage Pezza Large Tima Soliad Choice of Side Dishose Crip Green Solad Sicred Carambers w Day Whole Serind Com Chilled Fruit Cockhail Waterniskon Chimia LE-lee Cream Cap				
Linea of One Entree 20 Two State of Three State State of Three State State of Three State State One Wheat Broad Choice of Side Beabes Salad Tornioning Mexican Corr Foss and Carrots Spanish Rice Cantaloupe Churia Nectorine Crackers	Choice of One Letters 21 Guilled Chacker Party on 21 When Hon Chef Suled Choice of Sule Dishus Sandow M Dismana, Para & Carnon Seasoned Linus Beans Appleasance Pare	Cheire of Une Entire Cheery Chicken Large Brus Stala Choice of Side Dishes Halfy Invent Size Ceramy Colorian Convent the Col- Chilled Fron Cockan Apple Disner Roll	Cheix of One Entrole 23 Country Fred Steek 1 Large Cik ben Salan Cheix of Side Dobbes Missel Vegetables Wispped Postores w Genry Childel Pear Balles Waternelo of Cheix Wheat Holl	Choice of Une Entire Will Corn Dog Chicken Conne Salad Choice of Side Dishus Bladed Beam Tater Ties Fresh Missed Fruit Salad Fineapple Tichits Orange				
Choica of One Entrice 27 We Peperson Pleza Chef Salad Choice of Side Dishes Pueno Salad Steamed Hoocoli Celery Sticks we Dig- Presh Mued Pean Cap Apple	Choice of One Entrie 28 Red Beans in Sanage Soffied De Leen Stads Choice of Side Poblics Fully Bloc Choice of Side Poblics Fully Bloc Choice of Side Poblics Standed Carrots Standed Carrots Standed Squadh Applesance When Red	Choice of One Entrice 29 the Dog w Chile on Wheat Hun Large Chickee Nailed Choice of Side Dishes Feator Wedges Creamy Coloniane Whole Kernel Corn France Missel Fred Cap Parter Missel Fred Cap	Choice of Cine Entrice 30 Light Turkey on Wheat Itreat Chicken Censor Staled Choice of Side Dishes Standworld Immuning Cons on the Cob Itsesh Broccois or Rameh Dip Chilled Pener Halves Orange Sharbet	Chuice of One Entrice Wit Spugherit we Ment San Large Fuser Sanha Chuice of Side Diches Criny Green Beam Mixed Vegetables Sliced Childed Pasches Hannes Gattle Toud				

¹ Mississippi Food Network, Jackson, MS; ² Clinical Pediatrics, University of Miami Miller School of Medicine, Miami, FL; ³ The OrganWise Guys, Inc., Atlanta, GA; ⁴ College of Osteopathic Medicine, Master of Public Health Program, Nova Southeastern University, Fort Lauderdale, FL

Presented at:

The Obesity Society Annual Conference 2013

The 2013 Food and Nutrition Conference & Exposition of the Academy of Nutrition and Dietetics (formerly the American Dietetic Association) Society for Nutrition Education and Behavior Annual Conference 2013

Annual Nutrition Conference of the School Nutrition Association 2013