

Journal Articles

Journal of Nutrition and Behavior Supplement; Network for a Healthy California: Evaluation Results of Multi-Level Nutrition Education through SNAP-Ed July 2011 - August 2011.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S75-85.

Using a Toolbox of tailored educational lessons to improve fruit, vegetable, and physical activity behaviors among African American women in California.

Backman D, Scruggs V, Atiedu AA, Bowie S, Bye L, Dennis A, Hall M, Ossa A, Wertlieb S, Foerster SB.

OBJECTIVE: Evaluate the effectiveness of the Fruit, Vegetable, and Physical Activity Toolbox for Community Educators (Toolbox), an intervention originally designed for Spanish- and English-speaking audiences, in changing knowledge, attitudes, and behavior among low-income African American women.

DESIGN: Quasi-experimental design with treatment and control groups.

SETTING: Four community-based organizations and direct health service provider sites.

PARTICIPANTS: African American women ages 18-54 (156 treatment, 171 control), 75% of whom were low income.

INTERVENTION: Six 1-hour Toolbox classes.

MAIN OUTCOME MEASURES: Knowledge, attitudes, self-efficacy, empowerment, and behavior change related to fruits and vegetables and physical activity.

ANALYSIS: Dependent t tests pre- to posttest and chi-square test between control and treatment groups.

RESULTS: Women in the treatment group reported significant changes in 9 measures of attitude, compared to 1 measure in the control group, as well as 12 measures of confidence and 5 measures of empowerment for which the control group showed no changes. Compared to those in the control group, women in the treatment group were also more likely to make behavioral changes to meet recommendations for fruit and vegetable consumption and physical activity.

CONCLUSIONS AND IMPLICATIONS: Toolbox lessons were effective in increasing participants' knowledge, attitudes, self-efficacy, empowerment, and reported fruit and vegetable- and physical activity-related behaviors.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S155-S157.

Catering Trucks in California Promote Healthful Eating in Low-Wage Worksites

Backman D, Cheung J, Francis D, Sugerman S, Granger C,

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S113-21.

Effect of fresh fruit availability at worksites on the fruit and vegetable consumption of low-wage employees.

Backman D, Gonzaga G, Sugerman S, Francis D, Cook S.

OBJECTIVE: To examine the impact of fresh fruit availability at worksites on the fruit and vegetable consumption and related psychosocial determinants of low-wage employees.

DESIGN: A prospective, randomized block experimental design.

SETTING: Seven apparel manufacturing and 2 food processing worksites.

PARTICIPANTS: A convenience sample of 391 low-wage employees in 6 intervention worksites and 137 low-wage employees in 3 control worksites in Los Angeles, CA.

INTERVENTION: Fresh fruit deliveries with enough for 1 serving per employee, 3 days a week for 12 consecutive weeks. The control worksites did not receive the fruit deliveries.

MAIN OUTCOME MEASURES: Participants' fruit and vegetable consumption, fruit and vegetable purchasing habits, self-efficacy, job satisfaction, and overall health were measured at baseline, weeks 4 and 8, and following the 12-week intervention.

ANALYSIS: Descriptive statistics and growth curve analysis using hierarchical linear modeling were employed to analyze the data.

RESULTS: Participants in the intervention worksites showed a significant increase in fruit, vegetable, and total fruit and vegetable consumption, purchasing of fruit, family purchasing of vegetables, and self-efficacy toward eating 2 servings of fruit each day compared to the control worksites.

CONCLUSIONS AND IMPLICATIONS:

Improving access to fruit during the workday can improve fruit and vegetable consumption, purchasing habits, and self-efficacy of low-income employees.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S158-61.

Cultural adaptation of a nutrition education curriculum for Latino families to promote acceptance.

Broyles SL, Brennan JJ, Burke KH, Kozo J, Taras HL.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S162-5.

Curriculum intervention in preschool children: Nutrition Matters!

Farfan-Ramirez L, Diemoz L, Gong EJ, Lagura MA.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S130-6.

Building evaluation capacity in local programs for multisite nutrition education interventions.

Fourney A, Gregson J, Sugerman S, Bellow A.

Abstract

From 2004-2008, capacity to conduct program evaluation was built among the Network for a Healthy California's 48 largest local partners. Capacity building was done within a framework of Empowerment Evaluation and Utility-Focused evaluation. Tools included: a Scope of Work template, a handbook, a compendium of surveys, an evaluation plan and report template, data entry and analysis templates, teleconferences, workshops, and technical assistance. Over time, more programs completed an evaluation, used a more rigorous design, and reported statistically significant results. Acting as an evaluation guide, rather than a funder, Network staff built rapport with local programs that annually undertake new evaluations.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S86-95.

Usage and recall of the Food Stamp Office Resource Kit (FSORK) by food stamp applicants in 4 California counties.

Ghirardelli A, Linares A, Fong A.

OBJECTIVE: To evaluate recall and usage of the Food Stamp Office Resource Kit (FSORK), a set of nutrition education materials designed for use in food stamp offices.

DESIGN: Client intercept exit surveys, an environmental scan, and individual observations of clients in the food stamp office.

SETTING: Four food stamp offices in California.

PARTICIPANTS: People applying for food stamps in community social service offices: exit survey (n = 419), environmental scan (n = 308), individual observations of video (n = 111).

INTERVENTION: FSORK includes a video, poster, recipe cards, and brochures for the waiting room.

MAIN OUTCOME MEASURE(S): Aided and unaided recall of FSORK materials, self-efficacy, video attention (eyes on screen), and observations of materials usage.

ANALYSIS: Descriptive statistics for recall, usage, and video attention.

RESULTS: Nearly 70% of clients recalled, unaided, at least 1 FSORK element with the video recalled the most. In the observation study, of clients who initially engaged with the video, 40% of their viewing time was spent "watching" it.

CONCLUSIONS AND IMPLICATIONS: Food stamp offices are a useful setting for nutrition education in offices that are willing and able to display the materials and show the video.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S104-12.

Reliability of a retail food store survey and development of an accompanying retail scoring system to communicate survey findings and identify vendors for healthful food and marketing initiatives.

Ghirardelli A, Quinn V, Sugerman S.

OBJECTIVE: To develop a retail grocery instrument with weighted scoring to be used as an indicator of the food environment.

PARTICIPANTS/SETTING: Twenty six retail food stores in low-income areas in California.

INTERVENTION: Observational.

MAIN OUTCOME MEASURE(S): Inter-rater reliability for grocery store survey instrument. Description of store scoring methodology weighted to emphasize availability of healthful food.

ANALYSIS: Type A intra-class correlation coefficients (ICC) with absolute agreement definition or a κ test for measures using ranges as categories.

RESULTS: Measures of availability and price of fruits and vegetables performed well in reliability testing ($\kappa = 0.681-0.800$). Items for vegetable quality were better than for fruit (ICC 0.708 vs 0.528). Kappa scores indicated low to moderate agreement (0.372-0.674) on external store marketing measures and higher scores for internal store marketing. "Next to" the checkout counter was more reliable than "within 6 feet." Health departments using the store scoring system reported it as the most useful communication of neighborhood findings.

CONCLUSIONS AND IMPLICATIONS: There was good reliability of the measures among the research pairs. The local store scores can show the need to bring in resources and to provide access to fruits and vegetables and other healthful food.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S67-74.

Evaluating form and function of regional partnerships: applying social network analysis to the Network for a Healthy California, 2001-2007.

Gregson J, Sowa M, Flynn HK.

OBJECTIVE: To evaluate the partnership structure of the Network for a Healthy California (Network), a social marketing program, from 2001-2007, to determine if California's program was able to establish and maintain partnerships that (1) provided access to a local audience, (2) facilitated regional collaboration, (3) included new and nontraditional partners, and (4) strengthened regional networks over time, even with significant administrative changes in 2003 and 2006.

DESIGN: An outcome evaluation using 5 years of cross-sectional data.

SETTING: Data drawn from annual progress reports.

PARTICIPANTS: Funded local agencies and regional lead agencies.

MAIN OUTCOME MEASURES: Regional sociograms offered a visual assessment. Social network statistics (fragmentation and density) were calculated from sociogram data for changes over time.

ANALYSIS: A social network analysis and time-series regression analysis.

RESULTS: Sociograms demonstrated that more counties participated, more local agencies worked together, and networks were more integrated in 2007 than in 2001. Increased cohesion of Network partners was demonstrated by decreased fragmentation, and reaching out to new and existing partners was demonstrated by density.

CONCLUSIONS AND IMPLICATIONS: The Network developed in a way consistent with program goals. Social network analysis offers great potential for partnership and systems research.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S122-9.

The Power Play! Campaign's School Idea & Resource Kits improve determinants of fruit and vegetable intake and physical activity among fourth- and fifth-grade children.

Keihner AJ, Meigs R, Sugerman S, Backman D, Garbolino T, Mitchell P.

OBJECTIVE: Examine the effect of the California Children's Power Play! Campaign's School Idea & Resource Kits for fourth/fifth grades on the psychosocial determinants of fruit and vegetable (FV) intake and physical activity (PA).

METHODS: Randomized, controlled trial (n = 31 low-resource public schools; 1,154 children). Ten grade-specific, 50-minute nutrition and PA lessons over an 8-week period. Pre/post surveys measuring knowledge, outcome expectations, and self-efficacy (SE) were analyzed using analysis of covariance, controlling for baseline values; chi-square comparing positive/negative changes, adjusted for cluster design effects.

RESULTS: Intervention children made significant gains for FV knowledge (4 items, $P < .05$ to $P < .001$); positive outcome expectations (fifth grade only, $P < .001$); asking/shopping and eating SE ($P = .04$ and $P < .001$); PA knowledge (2 items, $P < .01$ to $P < .001$); outcome expectations ($P < .05$); and support seeking SE ($P = .04$); but not SE to overcome barriers.

CONCLUSIONS AND IMPLICATIONS: The Power Play! Campaign's School Idea & Resource Kits improved the determinants of FV intake and PA.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S137-44.

Community health centers: a promising venue for supplemental nutrition assistance program education in the Central Valley.

MkNelly B, Nishio S, Peshek C, Oppen M.

Health care providers could help achieve the necessary shift to healthful eating and active living; however, lack of coverage or reimbursement, lack of time, and limited information about appropriate interventions are some of the documented barriers. This report highlights the potential for Supplemental Nutrition Assistance Program Education (SNAP-Ed) implementation in the relatively nontraditional setting of Federally Qualified Health Centers based on the experience of the Central Valley Health Network's Nutrition Education Demonstration Project. The report provides a brief overview of the primary prevention role(s) suggested for health care providers, relevant SNAP-Ed policies, how SNAP-Ed has been implemented in Federally Qualified Health Center settings, and recommendations for similar efforts.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S148-S151

Enhancing the Delivery of Supplemental Nutrition Assistance Program Education through Geographic Information Systems

Stone M

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S96-103.

California adults increase fruit and vegetable consumption from 1997-2007.

Sugerman S, Foerster SB, Gregson J, Linares A, Hudes M.

OBJECTIVE: To determine whether fruit and vegetable consumption among California adults significantly increased from 1997-2007.

DESIGN: Biennial telephone surveillance surveys of California adults' dietary practices.

PARTICIPANTS: California adults (n = 9,105 total all 6 surveys).

INTERVENTION: Surveillance data reporting.

MAIN OUTCOME MEASURES: Changes in fruit and vegetable consumption over time between 1997-2007, measured by mean servings and percentage of adults eating ≥ 5 servings on any given day.

ANALYSIS: Comparisons of subsets both within the same year and across years were made using t tests, chi-square, and Tukey Studentized Range tests at 5% procedure-wise error rate.

RESULTS: California adults significantly increased mean daily servings of fruits and vegetables from 3.8 servings in 1997 to 5.2 servings in 2007.

CONCLUSIONS AND IMPLICATIONS: Since 1998, notable improvements in fruit and vegetable consumption have occurred to California populations, including the target audience groups of the Network for a Healthy California.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S53-66.

Using an opinion poll to build an obesity-prevention social marketing campaign for low-income Asian and Hispanic immigrants: report of findings.

Sugerman S, Backman D, Foerster SB, Ghirardelli A, Linares A, Fong A.

OBJECTIVE: To gain opinions from low-income, limited-English-speaking Hispanic and Asian immigrants for formative research in a social marketing campaign.

DESIGN: Nineteen questions on obesity prevention-related topics were embedded into a larger random digit-dial survey investigating the effects of language and cultural barriers on health care access. Participants were selected by ethnic encoding from consumer databases.

SETTING: California's northern, southern, and Central Valley regions.

PARTICIPANTS: Nine hundred and five adult Hispanic, Chinese, Vietnamese, Hmong, and Korean Californians from households < 130% of the Federal Poverty Level interviewed in 2005.

VARIABLES MEASURED: Media usage, food stamp participation, health insurance, health problems, access and availability of fruits and vegetables (FVs) and physical activity, beliefs about overweight, and related regulation and policy change.

ANALYSIS: Descriptive statistics and percentages for all questions.

RESULTS: Latinos reported receiving most information from television; Hmong from radio. Hispanics, Koreans, and Vietnamese thought diabetes was the greatest health issue in California. Among Hmong, 83% thought FVs were too expensive, and 49% of Vietnamese thought good quality, affordable fresh FVs were too hard to find.

CONCLUSIONS AND IMPLICATIONS: Identifying characteristics and opinions that distinguish these ethnic immigrant populations better enables the Network for a Healthy California to develop culturally relevant social marketing campaigns and materials.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S152-4.

Impact of the Harvest of the Month program on low-income Hmong and white middle school students.

Voorhees J, Goto K, Bianco-Simeral S, Wolff C.

J Nutr Educ Behav. 2011 Jul-Aug;43(4 Suppl 2):S145-7.

Impact of a kindergarten through eighth-grade nutrition education program on student, teacher, and schoolwide practices.

Wood L, Wolff C, Bianco-Simeral S, Goto K.

Am J Public Health. 2010 Nov;100(11):2156-62. Epub 2010 Sep 23.

Using geographic information systems and local food store data in California's low-income neighborhoods to inform community initiatives and resources.

Ghirardelli A, Quinn V, Foerster SB.

OBJECTIVES: We examined conditions in California low-income neighborhoods that affect obesity to inform program planning, nutrition education, community participation, investment of resources, and involvement of stakeholders.

METHODS: Staff members in 18 local health departments were trained to use an online geographic information system (GIS) and conduct field surveys. GIS data were aggregated from 68 low-income neighborhoods of 1 or more census tracts. Data were collected in 2007 to 2009 from 473 grocery stores in 62 neighborhoods.

RESULTS: Thirty-one percent of neighborhoods mapped had no supermarket within any of their census tract boundaries, but health department staff members estimated that 74.2% of residents had access to a large grocery store within 1 mile. Eighty-one percent of small markets sold produce, and 67.6% offered 4 or more types of fresh vegetables.

CONCLUSIONS: Small markets and corner stores in California's low-income neighborhoods often have fresh produce available for sale. Stores providing healthy options in typically underserved areas can be part of community efforts to promote healthy eating behaviors.

J Am Diet Assoc. 2009 Nov;109(11):1878-85.

Differences in fruit and vegetable intake among Hispanic subgroups in California: results from the 2005 California Health Interview Survey.

Colón-Ramos U, Thompson FE, Yaroch AL, Moser RP, McNeel TS, Dodd KW, Atienza AA, Sugerman SB, Nebeling L.

OBJECTIVE: To compare total fruit and vegetable intake in cup equivalents and its individual components among Hispanic subgroups in California.

METHODS: Data are from the adult portion of the 2005 California Health Interview Survey. Hispanic/Latino subjects (n=7,954) were grouped into six subcategories (Mexican, Central American, Caribbean, Spanish American, South American, and >1 group). Total fruit and vegetable intake in cup equivalents was estimated from frequency responses about seven food categories. Both t test and chi(2) test were used to assess differences in sociodemographic characteristics across Hispanic subgroups. Multivariate linear regressions using SUDAAN software (Survey Data Analysis, version 9.0.1, 2005, Research Triangle Institute, Research Triangle Park, NC) were conducted to obtain means of total fruit and vegetable intake in cup equivalents and its components by Hispanic subgroups controlling for confounders.

RESULTS: Hispanic subgroups did not differ in their intake of total fruit and vegetable intake in cup equivalents (mean 3.4 c and 2.9 c for men and women, respectively). Small but significant differences ($P < 0.01$) were found across Hispanic subgroups in individual fruit and vegetable components (green salad [women only], cooked dried beans and non-fried white potatoes) after adjusting for potential socio-demographic and acculturation confounders.

CONCLUSIONS: Fruit and vegetable intake by Hispanic respondents did not meet the national recommendation, although their reported intake is higher compared to other race/ethnicity groups. The public health message remains the same: Increase fruit and vegetable intake. Examination of intake for subgroups of Hispanics may enhance the utility of dietary information for surveillance, program and message design, and intervention and evaluation.

Californian Journal of Health Promotion 2009, Volume 7, Special Issue (Obesity Prevention), 99 - 118 1

Psychosocial, Socioeconomic, Behavioral, and Environmental Risk Factors for BMI and Overweight Among 9- to 11-Year-Old Children

Keihner, A.J., Mitchell, P.R., Kitzmann, C., Sugerman, S., & Foerster, S.B.

This study explored the risk factors for higher BMI and overweight in 9- to 11-year-old children using the 2007 *California Children's Healthy Eating and Exercise Practices Survey*. A total of 741 children completed a two-day food and activity diary. Of these, 299 children participated in the follow-up telephone interview, reporting attitudes and beliefs. Linear regressions identified risk factors related to BMI z-scores; logistic regressions were used for binomial overweight status. Independent variables included children's diet, activity, screen time, food modeling, family norms/rules, home environment, poverty, and parent education, adjusting for race/ethnicity. Parent education was the strongest risk factor with a clear gradient towards reduced risk as parent education improved. Children were .3 BMI z points lower and one-third less likely to be overweight as education level rose. Each serving of fried vegetables consumed was related to .3 point increase in BMI z. Children were 1.2-1.3 times more likely to be overweight with each increase in school lunch participation. Low-cost overweight prevention efforts targeting children with less parent education, school lunches, and consumption of fried vegetables may reduce BMI and help prevent childhood overweight. Additional investigation should determine the underlying factors contributing to the relationship between eating school lunch and overweight.

Health Promotion Programs: From Theory to Practice (pp. 259-290) Ch.10 in Fertman CI and Allensworth DD (Eds.), Jossey Bass, San Francisco, 2010. **Evaluating and sustaining health promotion programs.** Perales D, Fournay A, MKNelly B, Mamary E.

Learning Objectives:

Compare the scope and timing of formative, process, impact, and outcome evaluation
Identify and discuss the elements to be considered in designing an evaluation framework
Describe the role of evaluation in shaping program design, implementation, and sustainability
Describe the shared components of the evaluation frameworks from the CDC, RE-AIM, and the Institute of Medicine's Obesity Project
Explain the fundamental tasks in implementing program evaluation
Discuss evaluation results in terms of dissemination, utility, and program improvement

Californian Journal of Health Promotion 2008, Volume 6, Issue 2, 61-72
Prevalence of Fruit and Vegetable Consumption and Physical Activity by Gender and Race/Ethnicity - California, 2005-2006

Epstein JF, Sugerman S, Mitchell P, Induni M,

Diets high in fruits and vegetables and participation in regular physical activity are associated with a lower risk for several chronic diseases and conditions. The present study analyzed the combined prevalence of these two activities by race/ethnicity and gender among adults in California and among adults in California at or below 130% of the federal poverty level (FPL), using self-reported data from the 2005 and 2006 California Behavioral Risk Factor Surveillance System (BRFSS). Findings for California were similar to findings for the nation, showing gender and racial/ethnic differences for each of these variables, singly and in combination. Also, low-income men had a significantly lower prevalence of goal-level fruit and vegetable consumption than did low-income women. Although some demographic disparities are evident among Californians, the prevalence of achievement of two key healthy lifestyle behaviors concurrently remains quite low. These results emphasize the need for promoting diets high in fruits and vegetables and regular physical activity among all Californians.

Am J Prev Med. 2007 Oct;33(4 Suppl):S175-7.

Childhood obesity on the front lines.

Foerster SB, Silver LD, Kohatsu ND, Frieden TR, Bassett MT, Horton MB.

Cancer. 2005 Dec 15;104(12 Suppl):2962-8.

Seizing the moment: California's opportunity to prevent nutrition-related health disparities in low-income Asian American population.

Harrison GG, Kagawa-Singer M, Foerster SB, Lee H, Pham Kim L, Nguyen TU, Fernandez-Ami A, Quinn V, Bal DG.

Asian Americans and Pacific Islanders (AAPI) have the fastest growing rate of overweight and obese children. Aggressive programs are urgently needed to prevent unhealthy acculturation-related changes in diet and physical activity and to promote the healthier aspects of traditional lifestyle habits. We conducted focus groups and key informant interviews to explore knowledge, attitudes, dietary practices, and physical activity levels among three low-income Asian American ethnic groups, Chinese, Vietnamese, and Hmong, in California. Content analysis was used to identify similarities and differences among the groups. Several common health beliefs clearly emerged. Participants noted the importance of fresh (not frozen) fruit and vegetable consumption and physical activity for general health. The concept of good health included having a harmonious family, balance, and mental and emotional stability. All groups also expressed the general belief that specific foods have hot or cold properties and are part of the Yin/Yang belief system common to Asian cultures. The lure of fast food, children's adoption of American eating habits, and long work hours were identified as barriers to a healthy, more traditional lifestyle. A California campaign for Asian Americans using multilevel strategies is recommended to counter the alarming rise of obesity among AAPI youth. Strategies directed to individual, community, and

policy levels should emphasize maintenance of healthy traditional diets, informed selection of mainstream U.S. foods, and promotion of active lifestyles to prevent an impending burden from cancer and nutrition-related chronic diseases in AAPI populations.