Abstract

Background: School-based interventions focused on food and physical activity integrated with diverse educational domains, have potential to improve healthful eating behaviors among children. Curricular adoption and support requires establishing an evidence base for behavior change. This study examined the evidence base for Fuel for Fun (FFF), a yearlong intervention for 4th or mixed 4/5th grade classrooms that integrates diverse subject domains with cooking, physical activity and family involvement experiences.

Methods: Using 3 tested, reliable surveys, fruit and vegetable preference (FVP), self-efficacy (SE) for and attitude (AT) toward cooking were assessed at the start and end of an academic year in 2 cohorts with 4th and 4/5th mixed classrooms in the same 8 schools. Cohort 1 (C1) was the control in 2012 – 2013; cohort 2 (C2) received FFF programming during the 2013 – 2014 academic year. Trained staff measured heights and weights. For each survey, items were summed and analyzed using a general linear model with repeated measures, with cohort and gender as fixed factors.

Results: C1 (n=415) included 2 mixed 4/5th grade classes and was 2 mo older than C2 (n=352). C1 had more girls (52% vs 45%, P=.049). Both cohorts were > 75% white; BMI z-scores were similar (.25 ± 1.0 vs .22 ± 1.1, P >.05). C1 baseline SE and AT were > C2 even after controlling for gender and grade (34.4 ± .4 vs 33.6 ± .3, P=.02; 26.5 ± .3 vs 25.4 ± .2, P<.01 respectively). For each cohort baseline AT, SE, FVP did not differ among schools. Compared to controls (C1), FFF students (C2) had > improvements in AT (C1 26.2 ± .2 to 26.0 ± .2; C2 25.4 ± .2 to 25.8 ± .2; P=.015) and SE (C1 34.4 ± .3 to 35.5 ± .2; C2 33.6 ± .3 to 35.6 ± .3; P=.004) with a trend for greater FVP (C1 64.8 ± .6 to 64.9 ± . 6; C2 64.2 ± .2 to 65.4 ± .6; P=.085).

Conclusions: FFF improved AT toward and SE for cooking and tended to lead to increased FVP. FFF has an evidence-base supporting use in SNAP-Ed. Gender differences support FFF tailoring at the 4th grade level.