

# Engaging Youth in Learning about Healthful Eating and Active Living: An Evaluation of Educational Theater Programs

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## ABSTRACT

**Objective:** To compare knowledge gains and knowledge retention of healthful eating and active living behaviors in elementary school children participating in Educational Theatre Programs (ETP).

**Methods:** The study sample included 47 schools (2,915 third- or fourth-grade students) in 8 Kaiser Permanente regions. Children's knowledge of 4 healthful behaviors was measured using a brief survey before and immediately after performances, followed by a post-delay survey 3 weeks later.

**Results:** Statistically significant increases in knowledge pre/post for individual topics ( $P < .01$ ). The percentage of children who answered all 4 questions correctly increased from 17% to 63% immediately after ETP performances ( $P < .01$ ). Knowledge was retained over the short term; the proportion of students who correctly identified recommended healthful eating/active living practices had declined only slightly 3 weeks later.

**Conclusions and Implications:** The ETP significantly improved participating students' knowledge of healthful eating and active living concepts. Theater programs should be considered for inclusion in elementary school health curricula.

**Key Words:** educational theater, elementary school children, health education, nutrition education (*J Nutr Educ Behav.* 2012;44:160-165.)

## INTRODUCTION

Rising rates of childhood obesity in the United States are associated with low levels of physical activity, too much time spent watching TV or in front of computers, and overconsumption of energy-dense, low-nutrition food and beverages.<sup>1-5</sup> Manufacturers of high-calorie, low-nutrition food and beverages aggressively target children and teens with their advertising campaigns.<sup>6,7</sup> Given the flood of these messages in the media, creative approaches must be found to engage youth in learning about healthful choices.<sup>8</sup> The stakes are high, since

overweight or obese youth are likely to become overweight or obese adults.<sup>9,10</sup> Obesity is becoming a greater contributor to the burden of disease than smoking,<sup>11</sup> making early acquisition of healthful behaviors a major concern for the primary prevention of disease.<sup>12</sup>

Educational theater offers a promising approach for engaging youth with messages about healthful behaviors.<sup>13</sup> Live theater performances allow students to imagine themselves in the context of the action on stage, which creates an emotional connection with what the actors are experiencing. Interactive methods can be effective

for teaching health topics to school-aged children, including elementary school students,<sup>14-19</sup> and theatrical productions offer a variety of ways of engaging youth directly and indirectly in learning activities.

Although educational theater is widely used, effectiveness data are limited. A recent review by Joronen et al identified 46 studies published between January 1990 and October 2006 that involved school-based drama or theater interventions among primary or secondary school students.<sup>20</sup> Nine of the 46 studies met the inclusion criteria for review (drama as sole/primary method, evidence of effectiveness, school-based programs targeting ages 6-18, published in peer-reviewed journals), and only 5 of those involved health promotion around specific topics (eg, HIV education and prevention<sup>21</sup> or smoking prevention<sup>22</sup>). One study looked at theater for promoting healthful diet; it used a staggered design without a true control group.<sup>12</sup> Several studies used pre/post only designs, and none of these involved promoting healthful diet or exercise.

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As part of its Community Benefit program, Kaiser Permanente (KP), one of the largest not-for-profit health plans, serving more than 8.7 million members in the United States, has used educational theatre to address health issues, including youth risk behaviors, since 1985.<sup>23</sup> This article reports evaluation findings from a set of KP educational theatre productions targeting childhood obesity prevention. The purpose of the evaluation was to determine the change in and retention of knowledge of healthful behaviors among elementary school students following these performances, and to determine whether there were differences in knowledge gain and retention depending on school-level demographics.

## METHODS

### Educational Theatre Program Description

Kaiser Permanente created Educational Theatre Programs (ETP) with the goal of improving the mental and physical health of young people, their families, and their communities. With messages aligned with KP's clinical practice guidelines, ETP uses music, comedy, and drama to engage children, teens, and adults on a wide range of subjects, including healthful eating, physical activity, conflict resolution, peer pressure, HIV/AIDS, tobacco use, and dealing with grief and loss. Educational Theatre Programs develop 45-minute interactive plays with consistent messages about these health issues, which are performed by either professional or high school actors. The programs are offered free of charge to schools and community groups in the 8 KP regions (Northern and Southern California, Northwest, Hawaii, Colorado, Georgia, Ohio, Mid-Atlantic States).

In 2006, to address the obesity epidemic and health issues that can be a byproduct of poor nutrition and inactivity, KP Community Benefit created its national Community Health Initiatives for Healthy Eating Active Living (HEAL). The HEAL messages are incorporated into at least 1 ETP production in each KP region.

In the Northern and Southern California regions, the ETP performance is supplemented by additional work-

shops to reinforce the messages. In Northern California, the performance is followed by an in-class workshop led by the actor-educators that includes specially designed activities that complement the themes of the performance, and teachers receive a curriculum guide to lead follow-up activities with their students. The program concludes with an event at which families learn how to make more healthful eating and lifestyle choices. In Southern California, the HEAL ETP performance is the first part of a new program called Play H.E.A.L.S. (Healthy Eating Active Living Scenarios) designed to educate students about the importance of good nutrition and exercise. The performance is followed on 3 consecutive days by workshops for students facilitated by bilingual (Spanish/English) actor-educators. Topics include food groups, healthful snacking, and the media's influence on eating habits.

In 2007, in an effort to better describe the collective and individual impact of their work, KP Community Benefit and ETP staff committed to assessing the impact of the messages from the HEAL performances on student audiences. The Center for Community Health and Evaluation, part of Group Health Research Institute in Seattle, Washington, conducted an evaluation of ETP using an uncontrolled pre/post design to examine increases in knowledge immediately following HEAL-focused performances and retention of knowledge 3 weeks later. This assessment was submitted to the Group Health Human Subjects Review Office, which categorized the study as a secondary analysis of existing anonymous data and deemed it exempt from human subjects review.

### Evaluation Methods

Staff from the theatre programs in each of the KP regions selected 4-7 schools in which all third or fourth-grade students were surveyed after HEAL performances in 2008 or 2009. Schools were selected to represent the diversity of each service area, based on the school's racial/ethnic distribution and percentage participation in the free and reduced price school meals program. All students in the targeted grade in each school

viewed the performance together. Depending on the region, the performance was *The Amazing Food Detective*, *The Best Me*, or *Give Peas a Chance*. The messages in the various performances were consistent in emphasizing the importance of playing hard at least 60 minutes every day; eating a variety of food, especially fruits, vegetables, and whole grains; drinking water when thirsty; and cutting back on screen time with computers, video games, and television.

Brief surveys were administered before and immediately after the performance (pre/post), and approximately 3 weeks later (post-delay). The surveys were voluntary (students were told they did not have to complete the questionnaire if they did not want to) and anonymous (without identifiers), thus we were not able to link the responses for an individual student. Before the performance, the school principal received a letter describing the survey process. The pre and post surveys were distributed and collected by ETP personnel; the post-delay surveys were delivered to the schools and administered by school personnel.

The survey instrument was designed by staff from the KP regional and national program offices. Educational Theatre Programs regional staff drafted survey questions based on the key content areas of the HEAL messages. These questions were reviewed by KP's Care Management Institute for alignment with recommendations for weight management for children and adolescents.<sup>24</sup> Educational Theatre Programs staff also reviewed and revised the scripts for their HEAL performances to ensure they closely covered the content areas for each of the questions. After a final review, the survey questions were reviewed for age appropriateness by the Center for Weight and Health at the University of California–Berkeley.

The final survey instrument was a brief (less than 5-minute) paper-and-pencil questionnaire with 4 multiple choice questions, which are listed below. Answer choices are noted after each question in the order they appeared on the questionnaire; the correct answer is in bold face.

- What is healthiest thing to drink when you are thirsty? (sport drink,

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