

MyPlate the Musical: A program to increase nutrition and physical activity knowledge in elementary schools

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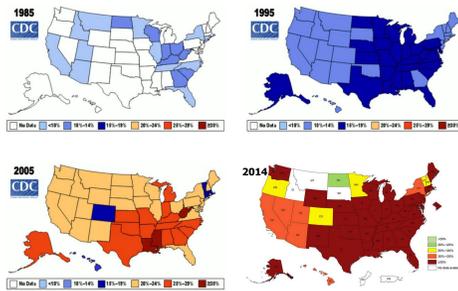
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BACKGROUND

Childhood Obesity

- Childhood obesity and chronic diseases are reaching epidemic proportions, particularly for Latino families
- Obesity increases risk of significant health issues for children such as diabetes, heart disease, apnea, asthma, disordered eating, in addition to psychological and emotional stress.
- Schools have been identified as the crucial interface for obesity prevention and education among children, and school-based interventions have been developed to combat childhood obesity.



Goals

- The short-term goal is to increase nutrition knowledge and physical activity among elementary school-aged children.
- The long-term goal of this education initiative is to add to prevention efforts designed to reduce childhood obesity and the long-term risks for chronic disease.

My Plate the Musical

- A series of nutrition education classes in conjunction with rehearsals/physical exercise
- 7-week program (1 session each week) = 7 hours of instruction and 10 hours of rehearsal.
- Performance of original nutrition/entertainment musical, "MY PLATE! The New Food Guide Musical"
- Performed by professional Broadway actors and the school children.
- Student actors** from the school participated in the 7-session programs
- Student viewers** watched the performance in a school-wide assembly at the school.
- A creative program praised by Michelle Obama's "Let's Move" initiative and White House USDA website. The creator is Helen Butleroff-Leahy, an RD, former Rockette, Broadway Dancer, Choreographer and Co-writer Roumel Reaux, a performer, choreographer of six Broadway shows, including "The Wiz."

METHODS

Procedures

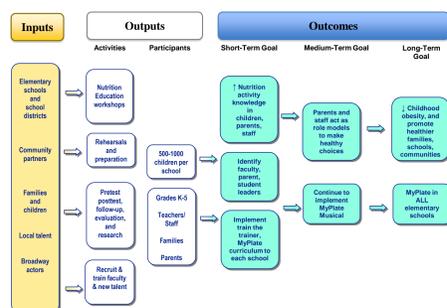
- Qualitative data were collected from school personnel during debriefing sessions and interviews at 6-month follow-up.
- Pretest and posttest data were collected from student actors and student viewers.
- At one school, students completed a pretest and posttest prior to the intervention (control group). The same students completed another posttest after the intervention (treatment group). Thus, each student was their own control.



Sample Characteristics

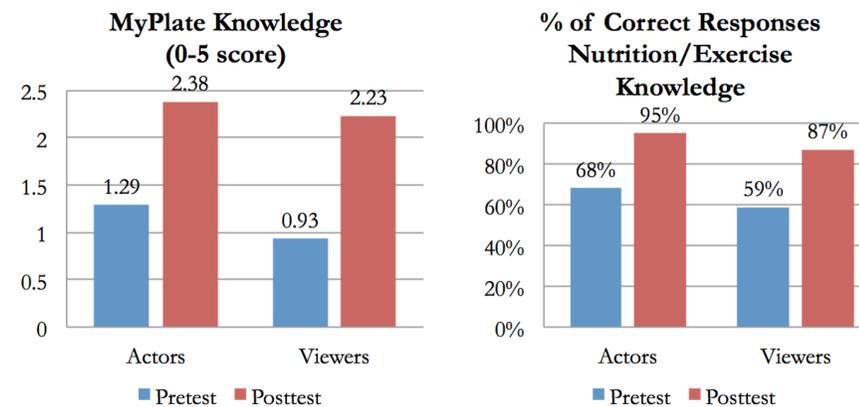
- Five schools in Southern California were chosen to participate in the program
- 463 students (actors) were trained in nutrition education and musical roles
- 1149 student (viewers) attended the musical
- Majority Latino
- Majority low-income families

Logic Model



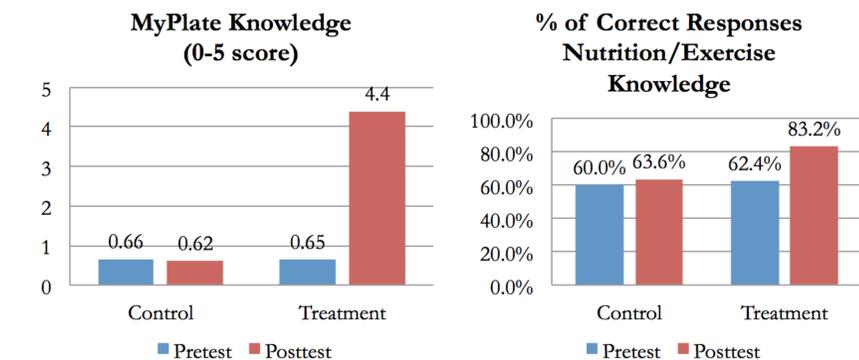
RESULTS

Actors (n = 229) vs. Viewers (n = 539)



- Independent samples t-tests indicated that for actors and viewers, posttest scores were significantly higher than pretest scores on *MyPlate* knowledge and nutrition/exercise knowledge ($p < .001$)
- ANOVAs with difference scores indicated no statistically significant differences between the actors and viewers.

Control (n = 236) vs. Treatment (n = 193)



- ANCOVAs compared groups' posttest scores with pretest scores as covariate
- Posttest knowledge scores and *MyPlate* scores were significantly ($p < .001$) higher for the treatment (musical) group than the control group (no musical) after controlling for pretest.
- Knowledge scores and *MyPlate* scores significantly ($p < .001$) increased from pretest to posttest for the treatment (musical) group, but not the control group.

Quotes from School Personnel

- "Students bring fresh fruit and vegetables for snack and or for lunch," "Students will now bring in snacks like celery and peanut butter or carrots,"
- "Fewer students bring family-size bag of chips because of the musical's focus on portion size."
- "More students are drinking water instead of sweetened drinks, juice, sports drinks or soda."
- "They [students] choose to eat their fruit at breakfast."
- "The curriculum seemed to affect student's choices in foods and fitness"
- "It has been incorporated in our school curriculum."
- "This was a wonderful experience for my special needs students as it gave them the opportunity to shine."
- "We have been fortunate to have the *MyPlate* musical. The message of being empowered in food choices will be instilled in children and their parents."

DISCUSSION

Results Summary & Discussion

- Results indicated students (actors and viewers) reported significantly higher physical activity and nutrition knowledge at posttest than pretest.
- The treatment group showed significantly greater change from pretest to posttest than the control group.
- School personnel (principals and teachers) saw changes in nutrition and physical activity behaviors.
- Thus, a fun interactive intervention (e.g., musical) can be a great tool to increase children's nutrition and physical activity knowledge.

Limitations

- Potential for confounding variables (i.e. unknown external nutrition programs) that would influence the outcome of nutritional knowledge and physical activity.
- Uncertain that these results are generalizable since this intervention has only been tested in a specific socioeconomic population with a high percentage of Latino students.

Research & Practice Implications

- More research with other demographics should be conducted.
- Families should be investigated to see if changes are made at home.
- Provide a nationwide school-based prevention and intervention program that engages students in music, arts, nutrition, and physical activity to meet common core state standards and physical activity recommendations for elementary students.
- Long-term follow-up should be conducted to determine if the children who participated in the musical and viewed the show have made changes in their eating habits, physical activity, and socio-emotional attitudes and behaviors.
- Additional research should be performed to investigate using performing arts as a therapeutic means versus traditional methods and interventions.
- Implementation and evaluation of the "Train-the-Trainer" program should be initiated to identify staffs and teachers in the schools to take on administration of the project to ensure sustainability.

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