

School-based Nutrition Program Helps Third Graders Learn Importance of "Shaping Up My Choices"

Formative evaluation results of third grade students participating in a nutrition education program.

Introduction

Obesity among California children has increased in recent years. Obesity rates have more than tripled for children aged 6-11 years. Research indicates that improving dietary habits may positively influence childhood obesity. One logical place to reach a large number of children is in the school environment and therefore nutrition education programs targeting this population have been developed. Dairy Council of California has provided nutrition education lessons to schools for over 90 years and is committed to providing high quality classroom programs that are easy for teachers to implement and can improve behavior. *Shaping Up My Choices* seeks to achieve behavior change through a series of ten classroom lessons. The focus of the lessons is on small, sustainable improvements, especially related to the foods that students choose to eat at each meal. With the release of *Shaping Up My Choices* for third grade students, the next step was to identify the effectiveness of this classroom nutrition program to enhance its effectiveness and influence.



Study Design

Fifty California elementary third grade classrooms (N = 860 students) participated in a randomized-controlled evaluation for a statewide trial of Dairy Council of California's *Shaping Up My Choices* nutrition lessons. About half (28 classrooms) were randomly assigned to teach the lessons in the fall of 2010 and the remaining 22 classrooms were in the control group and were asked not to teach any nutrition until the spring when the project was complete. The program consisted of ten nutrition lessons delivered by classroom teachers. A teacher guide, student workbooks, and family homework were distributed to each intervention teacher. The evaluation included classroom observations, teacher surveys, and student pre- and immediate post- and three-month follow-up surveys to assess changes in knowledge, attitudes and food choices.



Results

Teachers liked the simplicity of the program such as the step-by-step lessons and supportive visuals such as food pictures. Teachers reported that all of the lesson objectives were generally able to be met and that most students could perform nutrition-related behaviors after receiving the program.



Students Improved Knowledge

Students' knowledge significantly increased between baseline and post and between baseline and follow-up survey ($p < .01$) to greater extent for the intervention group in all of the categories measured. The topics included:

- * correctly matching foods with food groups,
- * identifying the main nutrient in foods,
- * naming the health benefits of nutrients,
- * creating balanced meals, and
- * making healthy snacks.

Improved Attitudes toward Healthy Food-Group Foods

Students' outcome expectancies related to the benefits of consuming healthy food and their confidence to select healthy food, self-efficacy, improved to a greater extent for the intervention group versus control group between baseline and post ($p < .01$). These improvements remained for both items but significance remained only for outcome expectancies, which is the belief that eating in a specific way has health benefits. For example, students were asked, "I think that I will be healthier if I eat a variety of foods from all five food groups every day." Response choices were "yes," "maybe yes," "maybe no," and "no".

Better Food Choices

The pre and post surveys demonstrate that consumption of several types of extras (i.e., doughnuts, cookies, candy, and potato chips) decreased significantly more in the intervention group who received the SMC lessons as compared to the control group although this was maintained only for sweets at follow-up. Also, vegetable intake was maintained in the intervention group, whereas decreases in vegetable intake were observed in the control group. A marginally significant difference was also found for change in soda consumption ($p < .10$) with the intervention group decreasing soda consumption to a greater degree than the control group.

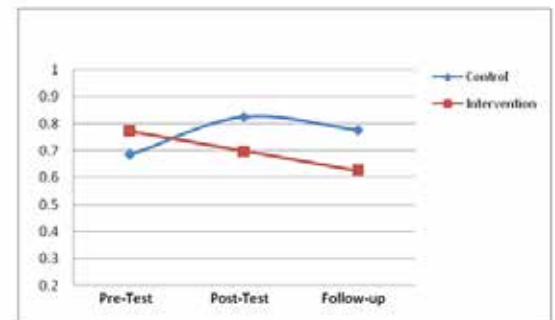


Figure 1. Daily Cookie, Candy and Other Sweets Intake

Conclusions

Nutrition education is a key element to promoting lifelong healthy eating and schools offer a way to reach a large group of children. Increasing student skills and reinforcing concepts in the home environment through the family homework may be a contributor to children's improved food choices. The results of this third-grade summative evaluation suggest that the *Shaping Up My Choices* program positively affects students' knowledge and behaviors compared to the control group. Retention of knowledge was high and statistically significant compared to the control group, indicating the teachers reinforce the information throughout the school year.

Teachers reported that *Shaping Up My Choices* was an effective way to teach their students about nutrition, and that the students could master the lesson objectives. This is supported by student survey data that showed a decrease in extra foods in the intervention group compared to the control group. Intervention students also maintained their vegetable, milk and milk products, fruit, beans and dark bread intake. Students' expectancies at the end of the program, their confidence in making changes (self-efficacy), and knowledge pertaining to healthy eating and nutritional content increased between the pre-, post and follow-up surveys.

The curriculum garnered a high level of support from teachers and administrators at school. Teachers enjoyed teaching *Shaping Up My Choices*, with 79 percent of the teachers planning to implement next year and 84 percent would recommend the program to other teachers.

Dairy Council of California extends a warm thanks to the 50 participating teachers and their students.

The results of this evaluation are published in:

Dunton GF, Liao Y, Grana R, Lagloire R, Riggs N, Chou CP, Robertson T. State-wide dissemination of a school-based nutrition education programme: a RE-AIM (Reach, Efficacy, Adoption, Implementation, Maintenance) analysis. *Public Health Nutrition*. February, 2014. Available on CJO2012. doi:10.1017/S1368980012005186.

