Effectiveness of Four WIN Kids Lessons

The Situation
The incidence of overweight and obesity in children is increasing: (1) The prevalence of overweight U.S. children and adolescents in 1999-2000 was approximately 15%; (2) Excess weight in childhood and adolescence has been found to predict overweight in adults. Overweight children, aged 10 to 14, with at least one overweight or obese parent were reported to have a 79% likelihood of overweight persisting into adulthood.

Research has shown a link between poor eating habits and becoming overweight or obese. Surveys on children’s eating habits indicates that:
- Only 1% of children eat according to the Food Guide Pyramid (FGP) recommendations.
- Approximately 20% of children consume the recommended servings of five fruits and vegetables each day.
- Approximately 34% of calories in the diet of a 6 to 11-year-old come from fat, which is higher than the recommended level of 30%.
- The average fiber intake of a 6 to 11-year-old is 14 grams a day with the recommendation of age plus 5 grams of fiber intake daily.

Our Response
Four lessons that cover fat, fiber, the FGP, and senses were developed by Wellness IN (WIN) the Rockies Project Education Specialist and they were taught to school-age children (N=100). The four lessons contain information, activities and evaluation tools. The lessons were titled:

1. Fat Facts. Children learned the amount of fat in a food, the value of fat as a nutrient, and identified and made lower-fat food choices.
2. Moving on with Fiber. Children learned the health benefits of fiber, identified high fiber foods, and set a goal to increase their fiber intake.
3. Variety, Balance and Moderation (VBM). This lesson taught children the food groups of the FGP and they learned to apply the principles of VBM to their food choices.
4. Senses Carnival. The children learned the role the five senses play in food choices and how to appreciate food and eating.

The objective of this research was to evaluate four lessons’ effectiveness using four different evaluation components: cognitive pre and posttests, in-class activities, take-home activities, and teachers’ evaluations.

Program Outcomes
Cognitive Pre- and Post-tests
All four lessons increased students’ short-term nutrition knowledge (p≤.01) significantly based on posttest scores.

In-class Activities
The in-class activities indicated that students were unfamiliar with:
- Fat and fiber contents of different foods,
- How to use their senses while eating, and
- How to plan meals using the FGP.
Take Home Activities

- Making fat substitutions. Take-home activities showed that 50% of students chose a lower fat food to substitute for a regularly eaten high fat food. Twenty six percent of the students chose fruits and vegetables as their low fat choice.
- Selecting high fiber foods. Ninety six percent of students selected a high fiber food they liked to eat with 44% and 39% respectively selecting grains and fruit or vegetable as their high fiber food.

Food Intake Records had limited success as take-home activities, with less than 50% of students completing them accurately. Daily reminders and discussion from teachers, lessons addressing serving amounts, and assigning class points to take-home activities may improve effectiveness. Lessons that used food to teach nutrition concepts were most popular with students. Teachers believed the lessons were effective in teaching healthy eating behaviors, met multiple learning styles, and would be useful in future nutrition teaching. WIN the Rockies is supported by award #0004499 of the IFAFS (Initiative for Future Agriculture and Food Systems) Competitive Grants Programs/USDA.

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