



Integrated Nutrition and Physical Activity Program

Project Information Sheet

Project overview

The INPAP was adapted from the Denver-based Integrated Nutrition Education Program (INP) (Auld et al, 1998; Auld et al, 1999). The Program is designed to be delivered by specially trained resource teachers to elementary school aged children. The goal is to increase children's consumption of fruits and vegetables and decrease consumption of fat. The curriculum involves hands-on food preparation and tasting experiences the children are exposed to during the lessons. Lessons integrate math, science, and literacy core curriculum standards so that children are able to build on their academic skills at the same time they are learning about nutrition and physical activity. The INP consistently has been shown to increase children's self-efficacy for eating five servings of fruits and vegetables a day as well as efficacy for food preparation. Students, on average, consume 0.4 more servings of fruits and vegetables in the school lunchroom as a result of this program (Auld et al 1998 and Auld et al 1999). Up until 2000, INP had only been implemented and tested in Denver, an urban area.

The purpose of the present study was to assess the efficacy of the program when disseminated to a rural community with fewer lessons on nutrition and a new set of lessons on physical activity (with the new lessons, the INP became the Integrated Nutrition and Physical Activity Program [INPAP]).

Why? A description of the health problem

Both diet and physical activity are related to maintaining a healthy weight. Change in dietary intake, including increased consumption of fruit and vegetables, has been advocated to help maintain energy balance and a healthy weight. Despite this, only 20% of children meet national recommendations for 5 servings per day of fruits and vegetables (Krebs-Smith et al, 1996). In addition, only 38.5% of children 9-13 years participate in organized physical activities outside of school hours and 22% of children do not engage in any free time physical activity (CDC, 2003). With 15% of the U.S. population ages 6 to 19 being overweight, a three-fold increase since 1963, and with Hispanic adolescents and those from low-income households having higher than expected rates of obesity, intervention efforts aimed at increasing fruit and vegetable consumption along with physical activity are needed now more than ever.

Role of the community in shaping the project

In the spring of 2000, before the intervention began, local teachers and nutrition educators met as a group and made suggestions on how to make the INP lessons more culturally relevant (e.g., including locally grown vegetables such as carrots, mushrooms, and five varieties of potatoes, developing a new lesson using calabacitas which is a Mexican dish made with baby pumpkins).

Benefits to SLV community

- Students from Boyd Elementary School participated in the health curriculum for up to two years
- Teachers from Boyd received free on-site training, lesson supplies and staff support.

Time line and Research Design

Table 2. Research and Evaluation Design for INPAP

COHORT	SECOND GRADE					THIRD GRADE					FOURTH GRADE			
	Years	INPAP	Survey	waste	BMI	Years	INPAP	Survey	waste	BMI	Years	Survey	waste	BMI
Comparison Resource	99-00			X	X	00-01				X	01-02	X		X
Teacher Classroom	00-01	X	X	X	X	01-02	X	X	X	X	02-03	X		X
Teacher	01-02	X	X	X	X	02-03	X	X	X	X		NA	NA	NA

Results

RT and CT cohorts showed improvements in most outcome measures each year (e.g., knowledge, self-efficacy, attitudes). In the fourth grade, the RT cohort demonstrated higher levels of nutrition-related knowledge, self-efficacy, and attitudes than the comparison group. No differences in BMI were observed. Teachers reported that lessons needed to be simplified and that children enjoyed them.

Accomplishments to date

- 1) Phase 1 of project completed. Phase 2 is underway (see the Adoption and Long Term Outcomes of INPAP Follow Up Study Project Information Sheet for more information)
- 2) Poster presentation at the National Chronic Disease Prevention and Control Conference, 2003.
- 3) Elaine S. Belansky, Catherine Romaniello, Catherine Morin, Terry Uyeki, Rebecca L. Sawyer, Sharon Scarbro, Garry W. Auld, Lori Crane, Kim Reynolds, Richard F. Hamman, Julie A. Marshall. Adapting and Implementing a Nutrition and Physical Activity Curriculum in a Rural, Low-Income, Biethnic Community. *Journal of Nutrition and Education Behavior*. 2006;38:106-113

Project Team

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