Improved Self-efficacy and Nutrition Knowledge Among Indiana High School Teachers After Training in and Implementation of a New Nutrition Curriculum

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Abstract #0117

Background: Professional development can improve teacher self-efficacy and knowledge to enhance their delivery of food guidance. This may result in improvements in students' knowledge about and skills for healthy eating.

Objectives: To explore effects of a training on a nutrition curriculum, Forecasting Your Future: Nutrition Matters, on teacher self-efficacy to teach nutrition and knowledge of the 2015 Dietary Guidelines. To explore teachers’ outcome expectations for students.

Study Design, Settings, Participants: Family and Consumer Sciences high school teachers were recruited for training at a state conference and divided into 9-strata based on school location and size, then randomly assigned to intervention (INT, n=17) or control (CON, n=18). INT were trained (spring 2018), while control teachers followed their regular curriculum in the classroom (fall 2018). CON implemented the usual curriculum. Both completed a 60-item pre-test (spring 2018) and 55-item post-test (late fall 2018). Follow-up semi-structured telephone interviews were conducted (n=32) to expand on multi-quit opt results. Teachers answered open-ended questions about outcome expectations for their students.

Methods

Measurable Outcome/Analysis: Survey data were analyzed by hierarchical linear modeling to determine whether changes from INT differed from CON for self-efficacy to teach nutrition and nutrition knowledge. Interviews were recorded, transcribed and imported into NVivo software, then thematically analyzed.

Results: After training then teaching the curriculum, INT had greater increases in nutrition knowledge of the 2015 Dietary Guidelines (P=.028) and self-efficacy to teach nutrition (P=0.10) vs. CON. Interviews with INT revealed they did not expect immediate behavior changes but hoped to affect students’ future health by giving them the knowledge and skills necessary to make healthy choices.

Conclusion: Professional development sessions and providing updated curricula has promise for improving teachers’ nutrition knowledge and self-efficacy to teach nutrition. More research should be done on outcome expectations to guide future curriculum development.

Funding Source: USDA TEAM Nutrition

Introduction

Training of Family and Consumer Science (FACS) instructors who teach nutrition in an updated curriculum that includes messages from the 2015-2020 Dietary Guidelines for Americans is crucial for student learning. Professional development to improve nutrition-teaching self-efficacy and knowledge of the latest food guidance may help FACS instructors more effectively teach, which may lead to improved nutrition of students. Studies have shown that higher nutrition-teaching self-efficacy scores are associated with spending more time teaching nutrition.

Using a new curriculum entitled, Forecasting Your Future: Nutrition Matters as the focus, the main objectives of this study were to explore the effects of training Family and Consumer Sciences teachers and implementing the curriculum, on the teachers’ self-efficacy to teach nutrition, outcome expectations for their students, and teacher’s knowledge of messages from the 2015-2020 Dietary Guidelines for Americans. A secondary objective was to explore teachers’ outcome expectations for their students.

Methods

Recruitment: Teachers were recruited to participate at the 2017 Family and Consumer Sciences Spring Professional Development Conference and through a weekly newsletter sent out by the Indiana Department of Education.

Randomization: Data from the National Center for Education Statistics were used to classify and separate the teachers into 9 strata of Indiana high schools based on geographical location and school size. Teachers in each stratum were randomly assigned to intervention or control groups.

Intervention: The intervention consisted of a 5-hour in-person training session. For teachers who were not able to attend the in-person training session, a one-hour webinar was made available. The in-person training consisted of: Presentation of the new curriculum, simulation of one of the lesson plans, taste testing of exotic fruits, and a group brainstorming of ways to interest students in nutrition and strategies to partner with food service.

Results

Table 1. Mean (± SD) Knowledge and Self-efficacy Scores Before and After Training and Implementing Forecasting your Future: Nutrition Matters

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<th>Control</th>
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Generally, the mean scores increased for teachers in the intervention group compared to the control group. One item on the subscale that most teachers scored low on was, “How confident are you that if you do a good job teaching nutrition, your students will change their nutrition related knowledge, attitudes, and behaviors?” There was one item on the subscale that most teachers scored low on: “How confident are you that if you do a good job teaching nutrition, your students will change their nutrition related knowledge, attitudes, and behaviors?”

Statistical Analysis: Hierarchical linear modeling analyses were performed with random effects for teacher (level 1) and time point (level 2) to determine whether changes from INT differed from CON for self-efficacy to teach nutrition.

Table 2. Table of Mean (± SD) Knowledge and self-efficacy Scores Before and After Training and Implementing Forecasting your Future: Nutrition Matters

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Conclusion: Professional development to improve nutrition-teaching self-efficacy can be improved with trainings on knowledge of other states’ departments of education.

The results from the interviews show that the teachers’ outcome expectations and goals for their students might be more complex than what was captured in quantitative surveys. Future studies could expand on this to interview a larger and more heterogeneous sample of teachers to create an updated outcome expectation instrument.

References

