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Food Safety Education Using Conceptual Change Teaching Strategies among Native American Nebraskans

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Abstract

Foodborne illnesses impact millions of individuals each year, with young children at high risk of contracting such diseases. Many of the pathogens responsible for these illnesses can be destroyed with proper food handling techniques. Research has shown that there is a need for improved food safety education among the general public and among specific sub-populations. This project seeks to increase food safety knowledge, motivation and behavioral skills among Native American food preparers with young children. A food safety education curriculum was developed using the Conceptual Change Teaching Method and was guided by the Information-Motivation-Behavioral Skills Theory of health behavior change. Educational sessions in which participants discuss food safety topics, cook several recipes and then share a meal and discuss their application of food safety strategies are currently being conducted in a variety of Native American community centers throughout Nebraska. Preliminary findings suggest that food safety programs that are student-centered, collaborative and relaxed in nature can impact participants' food safety knowledge, motivation and behavioral skills. Understanding the effectiveness of the Conceptual Change Teaching Method in the area of food safety may assist other researchers and educators in the field of health science in the development and implementation of other health-related intervention strategies

The Conceptual Change Teaching Method

This instructional strategy posits that students in educational settings bring personal experiences to the classroom which shape their ability to learn. In this "student-centered learning" process, educators gradually walk students through the material, acknowledge any misconceptions about the topics being discussed and help the students identify gaps with their current way of thinking.

Involves Four Key Steps:

1. Revealing student preconceptions
2. Discussing and evaluating preconceptions
3. Creating conceptual conflict with those preconceptions
4. Encouraging and guiding conceptual restructuring

Research Objective

To develop and implement a culturally sensitive food safety education program for Native American food preparers with young children and assess the impact of the program on the participants' food safety knowledge, motivation and behavioral skills.

Research Methods

- Qualitative elicitation research conducted to assess population knowledge, motivation and behavioral skill levels and to obtain recommendations for education format
- Food safety curriculum developed from FightBac!™ educational program to address knowledge, motivation and behavioral skill deficits
- Participants recruited from local Native American community centers to participate in a 3-hour food safety program
- Participants received gift card and food safety kit for participation
- Educational program involved:
 - Participants discussing current food safety perceptions and practices amongst each other
 - Instructor and participants discussing those perceptions and practices in-depth using a food safety kit
 - Instructor creating conflict with participants' food safety preconceptions through discussion of food safety scenarios and principles
 - Instructor promoting conceptual restructuring through practical hands-on application of food safety principles
- Pre/Post surveys administered to assess program impact on food safety knowledge, motivation and behavioral skills
- Qualitative data collected through video and audio recording of sessions

Preliminary Findings

Data analysis on 27 program participants indicates this educational format has a positive impact on food safety knowledge, motivation and behavioral skills.

- After attending the program, participants were more likely to identify:
 - The proper method to chill leftovers
 - Proper hand-washing methods
 - The best way to check cooked meat to avoid foodborne illness
 - The correct timeframe within which leftovers are food-safe
- After attending the program, a majority (65%) of participants reported that their food safety practices keep their children from getting sick.
- Qualitative analysis of the educational program revealed that many program participants demonstrated:
 - Proper hand washing techniques
 - Suitable cleaning of produce
 - Recommended "separation" techniques
 - Appropriate thermometer use

Implications & Next Steps

- Food safety classes will continue to be conducted in a variety of community centers and Native American reservations throughout Nebraska
- Classes are also currently being conducted with members of the Hispanic population in Nebraska
- Educational programs using The Conceptual Change Teaching Method have potential to address a variety of health behaviors with diverse populations
- Future projects will include work with fruit and vegetable consumption among Native American preschool-age children and their caregivers