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Project Initiation

Project Data for Accession Number 1034030

Project Title

Strengthening the Utah Diabetes Cook Along Program for Statewide Extension Delivery: Curriculum Refinement and Randomized Controlled Trial

Project Details

Sponsoring Institution National Institute of Food and Agriculture	Project Status ACTIVE
Funding Source NIFA Non Formula	Grant Year 2025
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Program Code [A1344] Diet, Nutrition and the Prevention of Chronic Disease	

Project Director

Durward, C.

Recipient Organization

UTAH STATE UNIVERSITY
1000 OLD MAIN HL
LOGAN, UTAH 843221000

Performing Department

Nutrition Dietetics & Food Sci

Non Technical Summary

Diabetes is a major public health issue in the United States. Proven education and self-management programs are effective at preventing and controlling the disease, yet many people who could benefit from these programs do not participate. To help address this gap, Utah State University Extension proposes to adapt, implement, and test the Utah Diabetes Cook Along curriculum so it can be effectively delivered in a broader range of Utah communities. The project has two main objectives. First, it will refine the curriculum to ensure it is relevant, engaging, and applicable in varied local contexts, using input from community stakeholders to guide improvements. Second, it will evaluate the curriculum's effectiveness in improving hemoglobin A1C (a 3-month average of blood sugar levels, a marker of diabetes management), dietary patterns and related health behaviors through a randomized controlled trial. Expected outcomes include the creation and free dissemination of updated curricula and learning materials. This project will also

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contribute new evidenceto inform practice by comparing the outcomes and costs of two methods of tailoring curriculum for local community needs. In addition, activities will support workforce development through mentoring and training, and strengthen Extension's capacity to deliver relevant programming across disciplines. Overall, the project aims to improve eating patterns, support healthy behaviors, and build community capacity to prevent and manage diabetes statewide.

Animal Health Component

Animal Health Component: 0%

Research Effort Categories

Basic	0%
Applied	100%
Developmental	0%

Classification

Knowledge Area (KA)	Subject of Investigation (SOI)	Field of Science (FOS)	Percent
703	6010	1010	100%

Knowledge Area

[703] Nutrition Education and Behavior

Subject Of Investigation

[6010] Individuals (as workers, consumers, members of society)

Field Of Science

[1010] Nutrition and metabolism

Keywords

Extension programming, community outreach, nutrition curriculum, randomized control trial, program adaptation, Diabetes education, cooking-based programs

Goals / Objectives

Diabetes is a common and serious health challenge in the United States. Nutrition education and diabetes management programs help prevent the disease, support day-to-day disease management, and reduce the risk of complications. Unfortunately, many people who could benefit from proven diabetes management programs never participate. Utah State University Extension Nutrition is committed to reducing the impact of diabetes across the state by offering practical, engaging education tailored to meet the needs of the communities we serve. In this project, two objectives move us toward these goals:Objective 1. Strengthen the Utah Diabetes Cook Along curriculum by increasing its relevance across a broad range of Utah communities, supporting Extension's mission to serve all

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Utahns through evidence-based health education. Objective 2. Evaluate the efficacy of the updated curricula to improve eating patterns and related behaviors, with the overall goal to prevent and control diet-related chronic diseases, namely diabetes.

Project Methods

Objective 1. Strengthen the Utah Diabetes Cook Along curriculum by adapting it for use in a broader range of Utah communities, supporting Extension's mission to serve all Utahns through relevant, research-based health education.

1a. Supplemental Background Research: Systematic Literature Review and Listening to Community Voices We will supplement our existing background data, by conducting two systematic literature reviews. Following this, we will engage directly with the community through listen sessions with community members with diabetes or pre-diabetes and their families. Additionally, we will conduct in-depth interviews with community leaders, medical care team members, and diabetes education providers. These qualitative methods will provide rich, contextual insights into the unique challenges and needs of the communities we are working maximizing potential program impact.

1b. Outcome measure refinement Secondary outcomes for Aim 2--such as knowledge gain, improved diet, and positive health behavior changes--will be assessed using validated tools identified through the systematic literature reviews in Aim 1a. These tools will be translated as needed and refined by our expert team. We will then conduct cognitive interviews with at least 10 members of the target communities. In these interviews, participants complete the survey and explain their thought process, enabling researchers to identify and address any misunderstandings, ambiguities, or biases. This process ensures that survey items are interpreted as intended.

1c. Compare two methods tailor our curriculum to the needs of communities USU Extension Serves. We will compare the outcomes and costs of two approaches for tailoring the Diabetes Cook Along (DCA) curriculum to local community needs, addressing a gap in the evidence about the advantages and trade-offs of different methods. The DCA is a four-lesson, family-inclusive program that teaches diabetes self-management and healthy lifestyle habits through hands-on cooking, group discussions, and behavior-change tools such as goal tracking and meal planning. Recipes are low-cost and dietitian approved. For this grant, we will choose 2 approaches that are used commonly in the published literature. One higher resource approach and one lower impact approach will be chosen based on the systematic reviews conducted in 1a, previous research to support efficacy of those methods, input from Extension county faculty (our primary stakeholders for the resulting training and toolkit), and team experience and expertise. We will use qualitative data from meeting transcripts, field notes, and resulting curricula to compare the processes, changes, and outcomes of the two approaches, along with their relative costs.

1d. Interdisciplinary Toolkit and Workshop for Extension Faculty We will use results from previous aims to develop a cross-disciplinary Extension toolkit and workshop. The toolkit will provide step-by-step guidelines, practical examples, and customizable templates for adapting programs to local community needs. It will include tools for assessing needs, revising content, and evaluating impact, plus case studies and best practices from successful Extension projects. The workshop will train participants to use the toolkit through hands-on activities and real-world case studies. Both resources will draw on our experience, ongoing work, and related toolkits, with iterative reviews from USU Extension faculty to ensure they meet practical needs and reflect current best practices.

Objective 2. Evaluate the efficacy of the adapted curricula to improve eating patterns and related behaviors, with the overall goal to prevent and control diet-related chronic diseases, namely diabetes. We will offer the adapted Diabetes Cook Along classes through USU Extension and evaluate them in a randomized controlled trial, comparing participants in the cooking class with those in a virtual family finance class. This project will deliver nutrition education to high-need Utah communities while rigorously testing program effectiveness.

2a. Provide Tailored Diabetes Cook Along Classes in our Communities We will recruit and train four community members as peer educators. Training will cover basic nutrition through USU's National Nutrition Certification Program, our curriculum content (cooking demonstrations, diabetes health literacy, and referral processes), data collection, recruitment, and research ethics. Educators will also complete Utah's Core Skills Training for Community Health Workers, which includes service coordination, communication, outreach, and professional skills. Educators will deliver 30 Diabetes Cook Along class series in selected Utah communities, with 8-10 participants per class (total 240-300 people). They will record recipe demonstrations and content videos for each class to share with participants who miss a session; viewing the video and completing a follow-up call will count as attendance. During the maintenance period, educators will send weekly texts or video messages

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with links to diabetes education materials to support retention.2b. Test Adapted Program Efficacy in Randomized Control TrialParticipant recruitment, randomization, and retention: Participants will be recruited through community partners and assigned to the Diabetes Cook Along or an online Family Finance class using geographic-based group randomization. To support retention and complete data collection, undergraduate research assistants will collect data separately from the intervention.Power calculation: The experiment unit for intervention in the proposed study is class /cluster of less than or equal to 8 students per class. Sample size estimation is based on a variety of sources of data that have shown widely ranging effect sizes. Considering the variability present in the literature, resource limitation, and expected retention rate (80%), we propose 30 classes in the study that are very likely to fulfill the test on intervention effect at acceptable power level.Outcome measures and data collection timeline: Our primary outcome will be changes in A1C, a common blood test for diabetes, because it is an accurate way to see if the program is helping participants improve their diet and lifestyle. The week before classes begin, participants will complete baseline data collection (A1C, weight, height, knowledge, confidence, and self-reported health behaviors). They will then attend either the Diabetes Cook Along or a virtual family finance class. After the class, we will repeat the baseline measures and assess program acceptability. Participants will receive weekly text messages during a three-month maintenance period, followed by a final data collection to assess lasting effects. This follow-up will include all baseline measures plus program acceptability and use of referred diabetes education resources. After follow-up, participants may take the class they were not originally assigned to; these sessions will collect routine evaluation data but will not be included in the RCT.Data analysis: Collected data will be analyzed using multi-level mixed model in which intervention is fixed effect at class level and participants' demographics as fixed effects at subject level. Interactions among these factors will be examined and only significant joint effects ($\alpha = 0.05$) will be retained. We will conduct both an efficacy style (completers only) and intention to treat analysis.