



# Positioning the Registered Dietitian for Culinary-Centric Research

Catherine McManus, PhD, RDN, LD; Hope Barkoukis, PhD, RDN, LD, FAND

Case Western Reserve University, School of Medicine, Dept. of Nutrition (Cleveland, OH)



## Background/Objective

Innovations in T1DM management in youth are critical for improving & optimizing the health and well-being of this high-risk population

•**Objective:** develop & evaluate the impact of a community-based culinary-centric intervention on glycemic control & diabetes management among 6-14 year old youth with T1DM

## Diabetes Inspired Culinary Education (DICE) Program

10, 90-minute lessons delivered weekly over dinner hour

### Theoretical framework:

Social Cognitive Theory<sup>1</sup> (knowledge, skill building, self-efficacy (SE))

•**Lesson modules:** I.child & caregiver education

(40 min); II.family education (20 min); III.group family meal (30 min)

•**Lesson components:** hands-on culinary education; interactive T1DM education; family meal prepared by participating families; behavior goal-setting/family meal planning

## Study Design

Pilot study; one-group, pretest-posttest design

•**Participants:** 6-14 year youth diagnosed with T1DM within 5 years & caregiver

•**Setting:** community teaching kitchen in local grocery store

•**Educators:** 2 RDNs, 6 dietetic interns, graduate & undergraduate nutrition students

<b>Lesson 1. Going Against the Grain! (Identifying Carbohydrates)</b> Recipe: Chicken Fingers, Cheesy Cauliflower Tots; Peach Mousse
<b>Lesson 2. Don't Get Sloppy – Count Your Carbohydrates!</b> Recipe: Sloppy Joes, Veggie Cups, Fruit Salad with Honey Yogurt
<b>Lesson 3. Avoiding the High &amp; Lows of Exercise</b> Recipe: Veggie Chicken Pasta Bake, Fruit Kabobs



## Evaluation Plan & Summary of Outcomes

	Category	Outcomes	Level of Assessment		
			Child	Parent	Family
Participant	Dietary Intake	SSBs, fruits, vegetables, whole & refined grains	✓	✓	
	T1DM Management	HbA1c (%)	✓		
	Anthropometric	Body mass index (BMI), Blood pressure	✓	✓	
	Personal Determinants	Food prep: self-efficacy; attitude; involvement	✓		
		T1DM management, quality of life, SE	✓	✓	
		T1DM quality of life	✓		
Family Meal	Preparation, Planning, SE, Environment		✓	✓	
Process	Attendance	Weekly lesson attendance	✓	✓	✓
	Retention	Retention, dropout	✓	✓	✓
	Fidelity	Program fidelity	✓	✓	✓

- Diverse sample (n=22 participants) – race, sex, SES
- High program feasibility, acceptability & retention (73%)
- Significant improvements in child BMI (p=0.03), caregiver SE for healthy mealtime behaviors (p=0.02) & family engagement in home food preparation/cooking (p=0.05)

## Conclusions

RDNs well-positioned for leadership roles in culinary-centric initiatives aiming to foster healthy behavior change → curriculum development, programming, intervention implementation, evaluation/assessment

•Unfortunately, these initiatives frequently lack RDN leadership & expertise

DICE represents a reproducible, evidence-based approach for integrating dietitian-led research in a culinary-centric methodology

- Develop CM knowledge, skills & SE during RDN training → dietetic interns, DPD students
- Re-establish RDNs as food, nutrition experts & advocates of applied culinary research

References:  
1. Bandura A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall.

A special thanks to the funders & partnering organizations:

