Diabetes Prevention Program Results in Immediate Lifestyle Changes, Independent of Weight Loss, for 34 Prediabetic Participants in Baltimore, MD

Department of Food Science and Technology, University of Maryland, College Park, MD 20742, USA

Hannah Dentry, BS, Margaret Udahogora, PhD, RD, Alison Massey MS, RD, LDN, CDE

Summary

The CDC’s Diabetes Prevention Program (DPP) teaches participants how to lower their risk of Type II Diabetes by losing 5-7% of their body weight and exercising for at least 150 minutes per week. The DPP measures the efficacy of the program by calculating the percent weight loss. This study sought to measure the impact of the lifestyle changes taught by the DPP, understanding that these may not be reflected in weight loss. The study followed a group of 34 Baltimore City residents enrolled in a DPP titled Eat Well Be Well (EWBW), for four months and monitored their behavioral changes.

Objective

To assess the immediate impact of lifestyle changes taught by the Diabetes Prevention Program (DPP) titled Eat Well Be Well (EWBW), independent of weight loss.

Design

Participants: This study followed a group of 34 Baltimore City residents participating in EWBW. All participants identified as African American and were between the ages of 39 and 72.

Setting: Participants received weekly classes from the CDC’s DPP curriculum, led by an RD and RN (both CDE). In addition, participants received emails with short videos on the information they could look forward to in upcoming classes. The videos were created to increase the participants’ motivation to learn and return to class each week.

Methodology:

Surveys: Surveys were created to measure the impact of topics covered at periods of two, three, and four months. Upon completion of each period, participants recalled and rated their wellness practices from before and after the modules. The surveys were grouped as follows:

1. Survey One: at two months covered the following modules: Getting Active to Prevent T2D, Track Your Activity, Eat Well to Prevent T2D. Track Your Food, Get More Active, Burn More Calories Than You Take In.
2. Survey Two: at three months explored the following modules: Shop and Cook to Prevent T2D, Manage Stress, Cope with Triggers, Keep Your Heart Healthy, Take Charge of Your Thoughts, Get Support.
3. Survey Three: at four months focused on the following modules: Eat Well Away from Home, Stay Motivated to Prevent T2D.

Measurable Outcomes/Analysis: On the surveys, participants assigned themselves wellness practice ratings. The ratings measured frequency of healthy food choices by number of meals per day, physical activity by minutes per week, incidence of dietary practices related to stress ranging from never to always, and confidence in their ability to lose weight on a scale from not at all to very confident. Written responses to open ended questions were also collected to determine if participants found the lifestyle changes taught by the curriculum to be sustainable, if they would refer other people to EWBW, and how the program could be improved. Below is an example of the responses that we received:

1. ‘Did you find that the program was effective in helping you to lose weight at Follow-up meetings? Why or why not?’
2. ‘My experience was amazing. The lessons were informative, and I learned how to make healthy lifestyle changes. I am more confident in my ability to lose weight now and make healthy lifestyle changes. It was helpful to see videos each week since I could watch them whenever I wanted. I would recommend this program to others who have prediabetes.

Participants also rated the usefulness of the weekly preview videos as shown below:

- The Op% of 68% of participants who received the videos, 80% agreed with the following statement: ‘I find the videos informative in helping me meet my weight loss and physical activity goals’.
- The Op% of 68% of participants who received the weekly videos, 100% agreed with the following statement: ‘The weekly emails keep me feeling motivated to return to class each week’.

Results of Survey One

1. How many meals/day do you select a lean protein option (such as skinless chicken or fish)?

Prior to EWBW: 3 meals/day: 18%, 2 meals/day: 32%, 1 meal/day: 5%, Current: 3 meals/day: 18%, 2 meals/day: 32%, 1 meal/day: 5%.

2. How many meals/day do you select a whole grain option (such as whole wheat bread or brown rice)?

Prior to EWBW: 3 meals/day: 9%, 2 meals/day: 18%, 1 meal/day: 5%, Current: 3 meals/day: 9%, 2 meals/day: 18%, 1 meal/day: 5%.

3. How many meals/day do you select a lower fat dairy option (such as skim milk or low fat cheese)?

Prior to EWBW: 3 meals/day: 27%, 2 meals/day: 14%, 1 meal/day: 14%, 0 days: 55%, Current: 3 meals/day: 27%, 2 meals/day: 14%, 1 meal/day: 14%, 0 days: 55%.

4. How many meals/day do you select a lean protein option (such as skinless chicken or fish)?

Prior to EWBW: 3 meals/day: 13%, 2 meals/day: 27%, 1 meal/day: 5%, Current: 3 meals/day: 13%, 2 meals/day: 27%, 1 meal/day: 5%.

5. How many meals/day do you select a drink that has low or no calories (such as water or unsweetened coffee)?

Prior to EWBW: 3 meals/day: 23%, 2 meals/day: 14%, 1 meal/day: 5%, Current: 3 meals/day: 23%, 2 meals/day: 14%, 1 meal/day: 5%.

6. In a usual week, how many days did you do 30 or more minutes of moderate cardiovascular activity?

Prior to EWBW: 0 days: 9%, 1-2 days: 29%, 3-4 days: 27%, 5+ days: 54%, Current: 0 days: 9%, 1-2 days: 29%, 3-4 days: 27%, 5+ days: 54%.

Conclusions & Implications

- Participants implemented the lifestyle changes they learned from the DPP.
- The implications of these findings are that the DPP is useful in facilitating lifestyle changes that support participants’ health.
- Future studies could evaluate the long term maintenance of lifestyle changes to understand their sustainability.
- To evaluate the impact of the emails and videos created to reinforce the message of the DPP, future studies could compare lifestyle changes made by those who chose to receive the emails and videos, versus those who did not.
- Future studies should assign participants’ unique identifiers to determine if those who were more successful in implementing the lifestyle changes lost more weight.