Methods

•The study design will be a double-blind, randomized, crossover trial. Each subject will receive both placebo (3 weeks) and apple cider vinegar (3 weeks) over the 7 week trial.
•All prescription medications including hypoglycemic medication will be kept stable through duration of study and will be recorded.
•This study will be conducted at each patient’s home. Patients will be responsible for recording food intake, blood glucose levels, and exercise. Patients will be provided a 7 day supply of breakfast and study drink on each Monday of the trial.
•Regulated evening meal will consist of protein, whole grain, non-starchy vegetable, and 60 grams of carbohydrates.

Data Analysis

•A total sample size of 68 patients for a power of 80% and a level of significance of 0.05.
•The primary endpoint, the change in blood glucose, will be reported as a mean and standard deviation and a paired t-test will be conducted.
•The secondary end point, continuous glucose trend, will be analyzed by comparing AUCs.
•The data will be analyzed by Center for Statistical Consultation and Research (CSCAR) at the University of Michigan.

Conclusions and Limitations

•Type 2 diabetes is a prevalent disease in our society and many patients are interested in alternative methods for controlling their disease.
•This study hopes to show that two tablespoons of apple cider vinegar will reduce PPG and improve glycemic control.
•The most likely limitation of the study is the natural variation in blood glucose levels within an individual.
•To minimize this effect, the evening meal, fasting, exercise, breakfast, and treatment suspension will be controlled.

Future Direction

If positive findings or trends are observed the A1C will be assessed to determine long term efficacy.
•Once utility has been established alternative dosage forms will be identified.