

Jimmy Sobrera BSN, RN  
 Gerti Heider PhD, MSN, APN, GNP-BC ANP  
 Jessica Ramos DNP, APN

### Introduction

Weight loss has been proven to have substantial positive effects on an individual's health.

Benefits of weight loss on health include:

- Improvement in glycemic control in individuals with diabetes
- Improvement in systolic blood pressure, triglycerides, diastolic blood pressure and HDL cholesterol
- Improvement in sleep apnea
- (Ryan & Yockey, 2017).

### Background and Significance

In comparison to people with a normal or healthy bodyweight, people who are overweight or obese are at an increased risk of developing severe and chronic health conditions (Centers for Disease Control and Prevention, 2020).

Obesity related health conditions impact the economy of the U.S healthcare system with indirect and direct costs.

Direct costs:

- Preventative care, diagnostics and treatment services related to obesity

Indirect costs:

- Morbidity, disability, mortality.
- Decreased productivity in the workplace

### Methodology

**Study Design:** Randomized Control Trial

**Study Intervention:** Participants were randomly assigned to two groups. The intervention group utilized the smartphone application MyFitnessPal, the control group did not.

**Study Setting:** The study was conducted in an outpatient weight loss clinic in Northern New Jersey.

**Study Sample:** 30 participants were recruited via recruitment flyer at the clinic. All participants who were recruited completed the study.

**Outcome Measures:** Participants were monitored monthly at the clinic for two months following implementation. Body weight was collected at each visit to determine if there was an increase in the amount of weight lost in the intervention group who used the MyFitnessPal application, compared to the control group.

### Data Analysis

Weight loss averages from the initial visit, one month follow up and two month follow up were analyzed and compared between the intervention group and control group. A chi-squared formula was applied to both groups for the initial visit, one month follow up and 2 month follow up.

### Study Results

#### Cumulative

- All the weights from the weigh-ins cumulative through the second month weigh in, the Chi square is 314.43 with a P-value of 1.09. During this analysis, the P-value is above the alpha of 0.05. The formula determined that the variable are related and data not significant enough to yield a rejection of the null hypothesis

#### Discussion

The utilization of the smartphone application to aid in weight loss management has the potential to help increase weight loss, decrease medical conditions and comorbidities associated with being over weight and obese and decrease healthcare costs both direct and indirect.

#### Limitations

- Statistical Significance of the study was affected by the small sample size (n=30).
- Only the demographics of age and sex were collected for this study .
- Time frame of this study was only 2 months.

#### Future Implications

- A need for more studies on the use of smartphone applications to aid in weight loss management in the United States
- More studies specific to the effects of smartphone applications to aid in maintenance of a healthy lifestyle in individuals who are not overweight or obese.

### Study Implications

#### Impact on Healthcare Quality and Safety

- With 2-5% weight loss
  - metabolic and cardiovascular risk factor benefits
  - improvement in fasting glucose and hemoglobin A1C
  - improvement in systolic blood pressure and triglycerides
- with 5% to 10%
  - improvement with diastolic blood pressures and HDL cholesterol (Ryan & Yockey, 2017).

#### Practice

- Educating healthcare providers of the benefits of encouraging their patients to utilize smartphone technology to assist in weight loss management.

#### Economic/ Cost Benefit

##### Direct

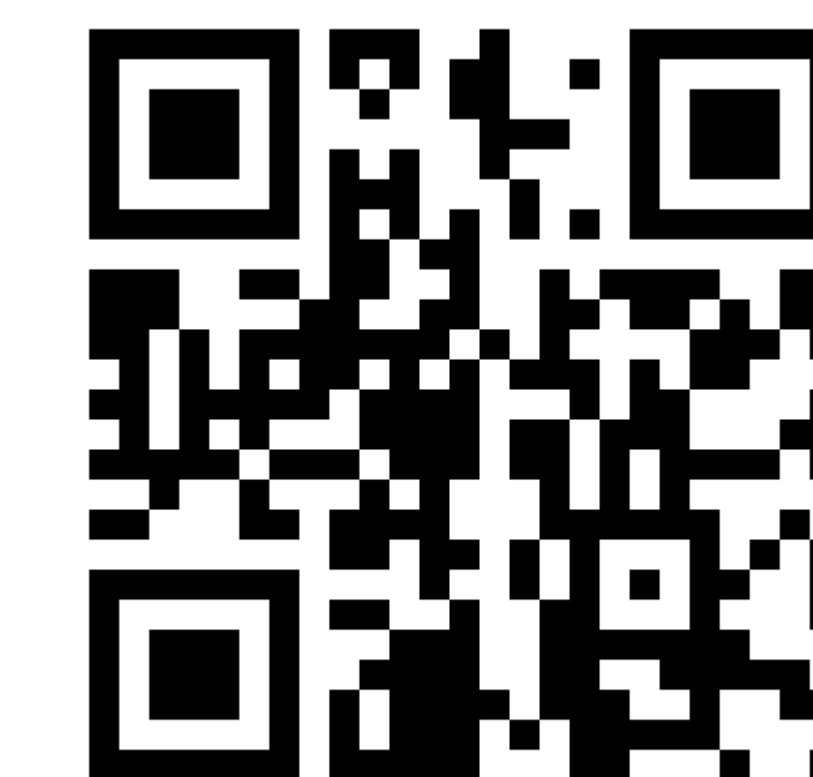
- There is a greater reduction in the healthcare costs associated with a given percent reduction in body mass index (BMI), when the individual is heavier (Cawley, et al., 2015)
- Following a 1 % weight loss, there was a \$213 healthcare cost decrease (Yu, et al., 2007).

##### Indirect

- Individuals would use less sick time, and employers would have an increase in productivity.

### References

- Please scan the below QR code



### Contact Information

Jimmy Sobrera BSN, RN  
 Jsobrera@sn.rutgers.edu

