Weight Management and Mobile Health in a Primary Care Setting

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INTRODUCTION

Overweight and obesity is excessive accumulation of fat that can impede one's health
Overweight - BMI 25 to less than 30
Obese - BMI 30 or higher.

- ❖ Overweight and obesity is a global concern affecting billions of people

- ❖ Primary care providers have an important role in combating this endemic

- ❖ Mobile health (mHealth) technology offers a positive outlook in combating obesity

- ❖ Collaboration of primary care providers with mHealth technology have shown to encourage weight loss, healthier dietary choices and increased physical activities.

- ❖ mHealth technology such as MyFitnessPal, is an engaging and appealing self-management tool that encourage healthier lifestyle
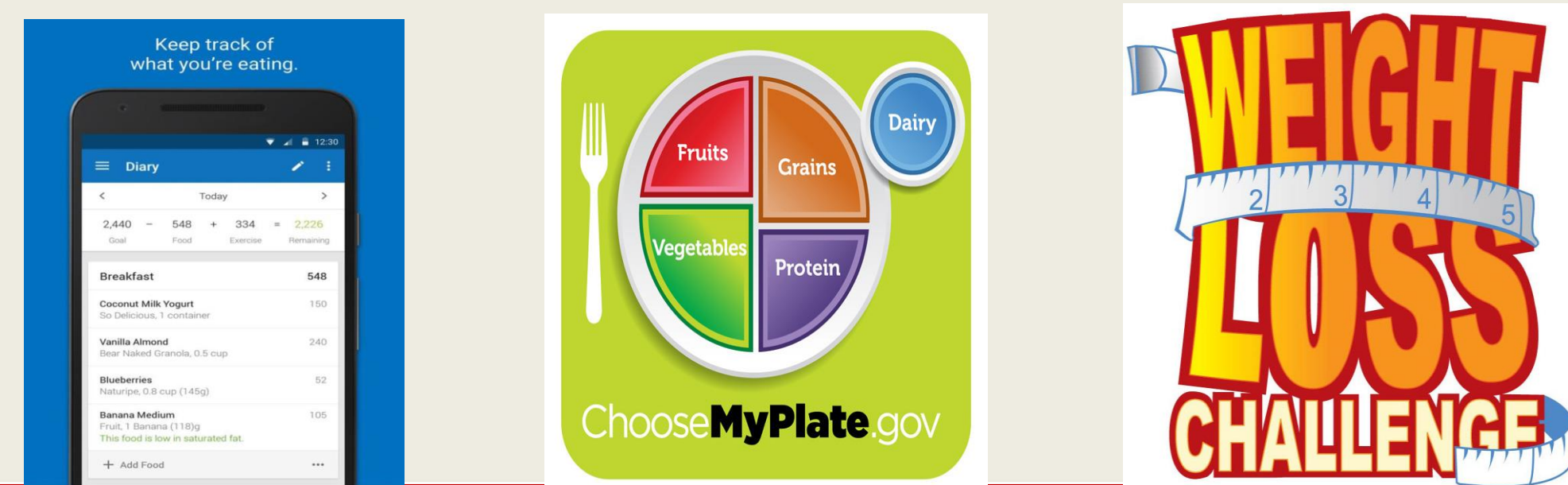
BACKGROUND and SIGNIFICANCE

- ➢ Obesity rate has tripled since the 1970s, globally

2017 to 2018:
- ➢ 42.5% of United States (US) adults were obese
- ➢ 73.6% of US adults overweight and obese
- ➢ 25.7% people in NJ obese

Educational level, socio-economic status, behavior, environment, and genetics are associated with the prevalence.
- ➢ The main contributor is the imbalance between consumption of calories to calories expended.

Associated with increase healthcare cost, reduce quality of life, increase morbidity and mortality.
- ➢ In 2008, $147 billion spent on obesity related care
- ➢ Healthy behaviors can reduce body fat
- ➢ Behavioral weight loss management intervention for those identify as overweight or obese

PURPOSE

The purpose of this project was to implement and evaluate the effectiveness of a behavioral intervention that included a combination of self-monitoring of dietary choices and physical activity using a commercial smartphone mHealth app named MyFitnessPal, for weight loss among overweight and obese patients in a primary care setting**.**

METHODOLOGY

Design: 12-weeks quality improvement pretest-posttest study.

Study's population: Adults ages 18 to 64 years old with BMI 25 to 39 kg/m^2, not pregnant or breastfeeding, not taking any anti-obesity medications, or had current use of a calorie counting smartphone app

Settings: Small primary care office in Essex county, New Jersey

Intervention:
- ➢ Participants oriented to MyFitnessPal use
Pre-intervention and post-intervention:
   - ➢ International Physical Activity Questionnaire short form and the Three Factor Eating R-18 Questionnaire completed
   - ➢ Body weight measured and BMI calculated
- ➢ Body weight were also checked weeks four and eight during intervention

Measured Outcome
1. Changes in weight
2. Changes in BMI
3. Changes in physical activity
4. Changes in eating behavior
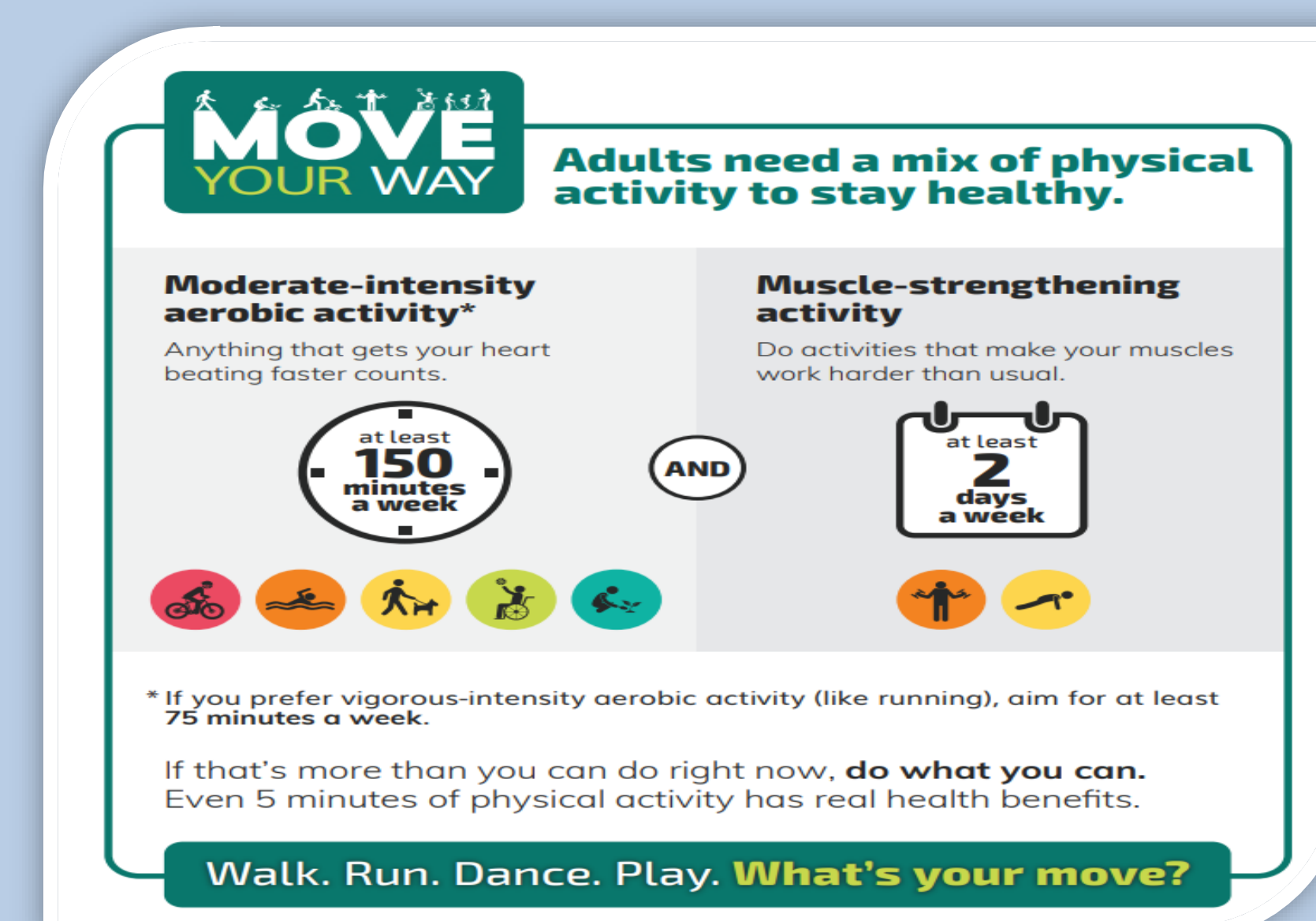
DATA ANALYSIS

SPSS
- ▪ Descriptive Statistics- demographic characteristics and anthropometrics data.
- ▪ Wilcoxon signed rank test- physical activities score, eating behavior scores, BMI
- ▪ Friedman test- Monthly weights

RESULTS

Weights	Participant weight M±SD
Pre-Intervention	87.95 ±10.55
Week 4	86.18 ± 10.97
Week 8	86.35 ± 11.37
Week 12	84.92 ± 11.81
X^2	6.67
p	.08

BMI	BMI M ± SD
Pre-Intervention	33.38 ± 4.82
Post-Intervention	32.20 ± 4.44
Z	-1.60
p	.11

Eating Behaviors	CR M ± SD	UE M ± SD	EE M ± SD
Pre-Intervention	11.75 ± 1.71	23.50 ± 6.03	10.75 ± 4.27
Post-Intervention	14.75 ± 3.95	21.00 ± 4.55	6.75 ± 3.30
Z	-1.47	-1.07	-1.84
p	.14	.29	.07

CR, Cognitive restraint; UE, Uncontrolled eating; EE, Emotional eating

Physical activity	Walking (METs-min/week) M ± SD	Moderate activity (METs-min/week) M ± SD	Vigorous activity (METs-min/week) M ± SD
Pre-intervention	0	120.00 ± 240.00	0
Post-Intervention	664.25 ± 880.49	40.00 ± 80.00	80 ± 160
Z	-1.83	-.45	-1.00
p	.07	.66	.317

DISCUSSION/LIMITATIONS

The study had
- ➢ no significant overall weight loss or difference in BMI after implementation of the commercial smartphone mHealth application.
- ➢ However, though not significant, the MyFitnessPal app promoted some weight loss among all participants.
- ➢ Participants report interest in continuing use of the app

Limitations of the study included:
- ❑ small sample size
- ❑ Timeframe for recruitment
- ❑ Implementation in winter months
- ❑ Participation overall engagement in the intervention

IMPLICATIONS

Mobile health technology can
- ➢ Enhance current standards of practice for overweight and obese patients
- ➢ Facilitate better self-management skills in maintaining a healthy lifestyle through weight loss.
- ➢ Highlight impact mHealth can have in helping overweight and obesity patients lose weight and be healthier.
- ➢ Update clinical practice to incorporate mHealth in weight management
- ➢ Modify policies to regulate and protect the use of mHealth technology for weight management.

REFERENCES
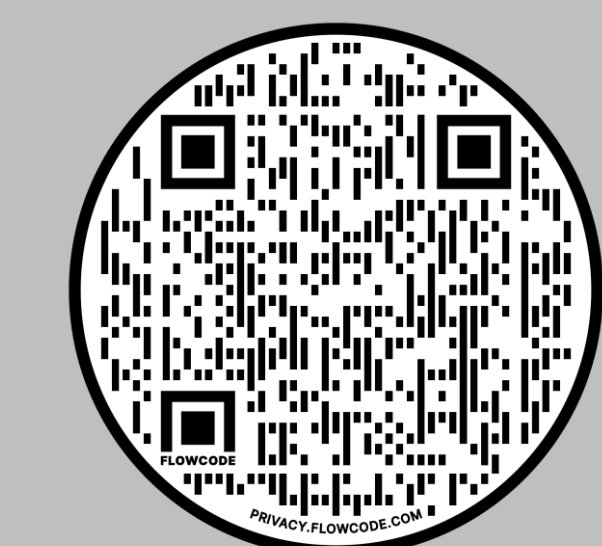
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