

Use of a Standardized Handout to Improve Patient Compliance with High Intensity Interval Training in a Family Medicine Clinic

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Background

- ▶ What is High Intensity Interval Training?
 - ▶ Short bursts (30-60 seconds) of vigorous exercise interspersed with recovery periods
 - ▶ Uses perceived exertion to determine intervals:
 - ▶ Perceived exertion of 8-9/10 for high intensity portion of exercise
 - ▶ Perceived exertion of 5-6/10 for recovery periods
 - ▶ Participants perform 5-6 intervals for beginners or 10-12 intervals for experienced exercisers in 30 minute exercise periods 2-3 times per week
 - ▶ Multiple modalities can be used including cardiovascular equipment, battle ropes, jump ropes, and body weight exercises

Benefits of HIIT

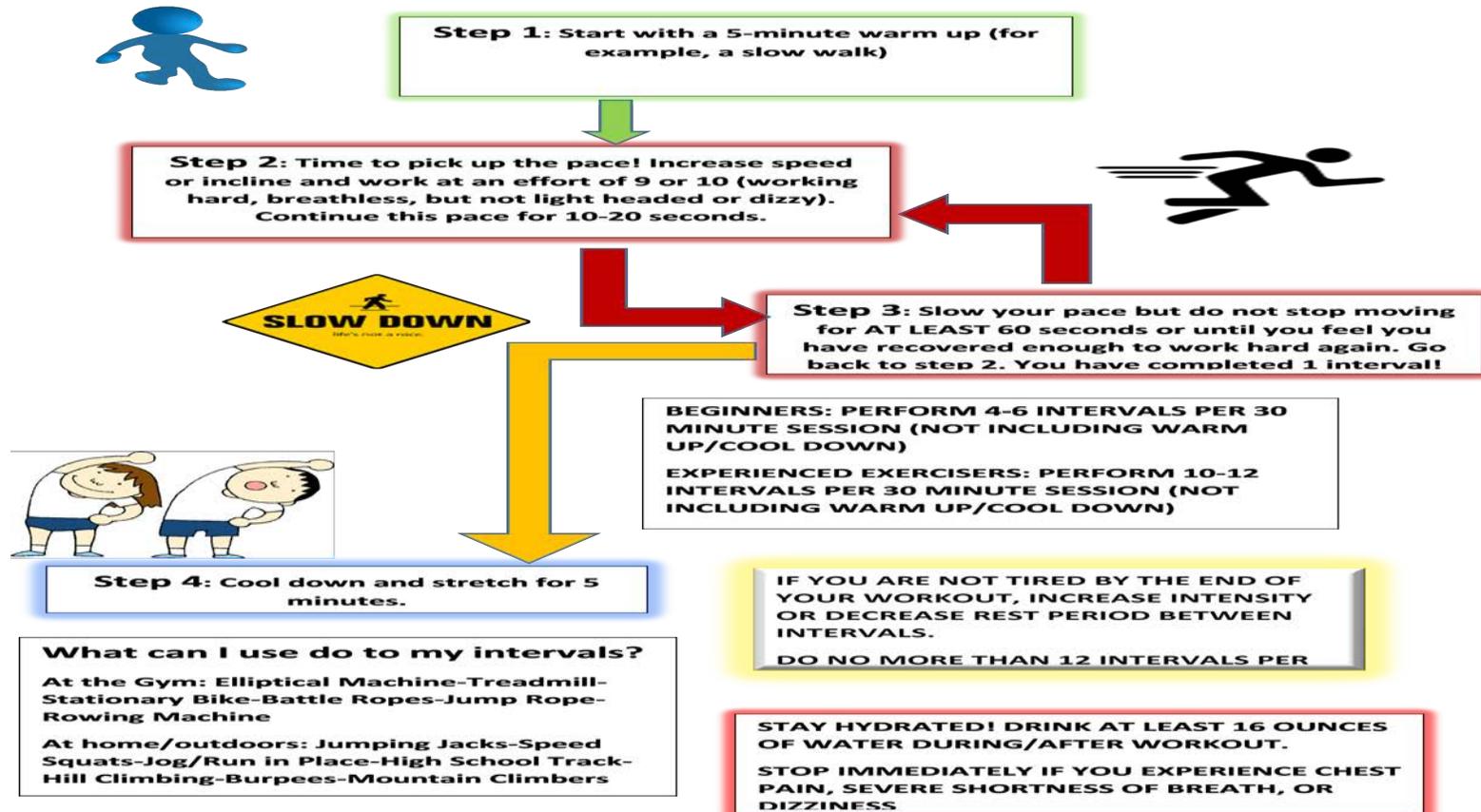
- ▶ HIIT has been found to have a number of potential benefits including:
 - ▶ Weight loss/reduction in body fat percentage including visceral fat
 - ▶ Lower blood pressure
 - ▶ Improved glycemic control
 - ▶ Improved cardiovascular outcomes
 - ▶ Improved muscle mitochondrial function
 - ▶ Safe for people of all ages after appropriate screening including elderly patients with a history of previous cardiovascular events

Methods

- ▶ A HIIT handout was developed by Dr. Ortega at the accepted standard 5th grade reading level
- ▶ Overweight and obese patients were recruited to participate in the study during routine office visits occurring in January and February 2018
- ▶ Height, weight, BMI, waist circumference, and exercise frequency were recorded for each participant
- ▶ The handout was given to participants and explained in detail by a medical assistant using a standardized script
- ▶ Patients returned in approximately 6 weeks for repeat measurements and assessment of exercise frequency
- ▶ Paired t-test and Wilcoxon signed-rank sum test were performed to determine the difference in BMI, weight, waist circumference, and exercise frequency before and after the intervention
- ▶ P-values less than 0.05 were considered statistically significant

Patient handout

HIGH INTENSITY INTERVAL TRAINING



Results

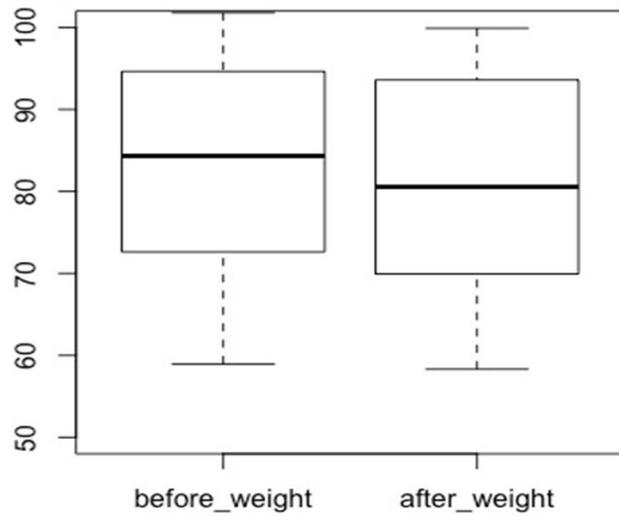
Patients (n=16)	Before intervention	After intervention
Demographics		
Age, Median (IQR)	58 (53,63)	58 (53,63)
Female, Frequency (%)	11 (69)	11 (69)
Physical Measurements	Median (IQR)	
Height (cm)	163.8 (158.7, 175.6)	163.8
Weight (kg)	84.3 (73.4, 92.2)	80.6 (70.0, 91.1)
Waist circumference (In)	42.5 (38.9, 46.0)	40.0 (37.0, 43.0)
BMI	29.2 (28.4, 32.6)	28.5 (27.7, 31.8)
Outcome variable	Median (IQR)	
Frequency of exercise	0 (0, 3)	3 (2.75, 3)

Results Continued

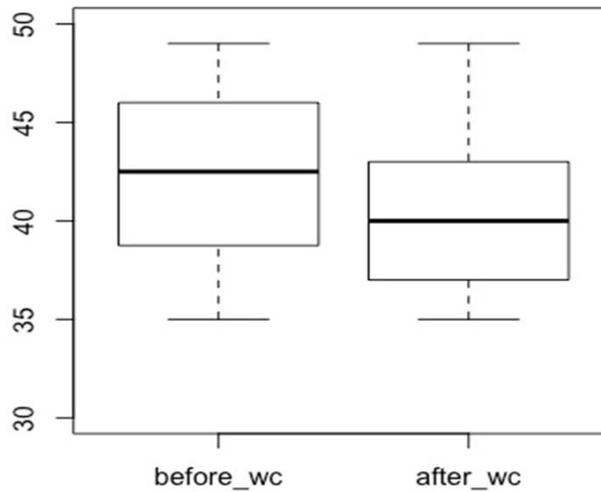
- ▶ After 6 weeks, there were 3 statistically significant findings:
 - ▶ BMI decreased by 0.7 points ($p=0.001$)
 - ▶ Waist circumference decreased by 2.5 inches ($p=0.0009$)
 - ▶ Weight decreased by 3.7 kg ($p=0.002$)
- ▶ There was a trend toward increased exercise frequency but this was not statistically significant
- ▶ Many patients indicated that they enjoyed their workouts and planned to continue after the completion of the study

Results Continued

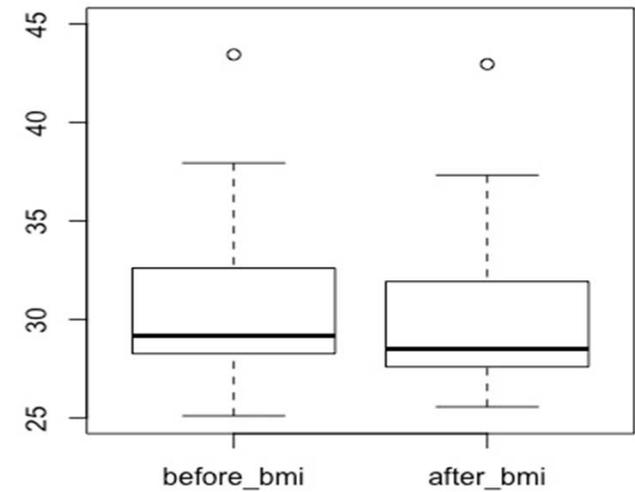
Weight change



Waist circumference



Body Mass Index (BMI)





Discussion

- ▶ This 6 week non-blinded interventional study demonstrates the effectiveness of a standardized handout to improve compliance with a HIIT program resulting in significant weight loss/BMI and decreased waist circumference in overweight and obese patients
- ▶ Further studies are planned to evaluate the same handout in a randomized controlled trial to determine if the handout produces superior results compared to standard care
- ▶ In residency training, this can serve as a model for the development of effective and inexpensive patient education tools that improve patient compliance with desired behavior change

Questions???

