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Miami-Dade County Parks, Recreation and Open Spaces





AFTERSCHOOL PROGRAM

BACKGROUND

- ▶ One of the greatest healthcare challenges is childhood obesity
- ▶ Statistics are staggering
- ▶ Overweight or obese kids are likely to be overweight or obese adults
- ▶ Poor diet and inactivity are leading causes
- ▶ Physical activity is associated with short and long term benefits

HISTORY

- ▶ 6 years we began a conversation with University of Miami (Miller School of Medicine)
- ▶ Organized working group
 - ▶ Researched Best Practices (what others were doing)
- ▶ Determined a methodology of program delivery, measures and testing that would substantiate our work
- ▶ Identified 5 core curriculum components

AFTERSCHOOL CURRICULUM

- ▶ SPARK
- ▶ Nutrition Education
- ▶ Life Sports
 - ▶ SNAG Golf
 - ▶ QuickStart Tennis
- ▶ Recreation Games
- ▶ Homework Help



WHAT MAKES US DIFFERENT

Partnership



UNIVERSITY OF MIAMI
MILLER SCHOOL
of MEDICINE

WHAT MAKES US DIFFERENT

- ▶ Data collected

- ▶ What
- ▶ When
- ▶ Who
- ▶ How

- ▶ Vision



THE VISION

Parks Rx 4Health

A Park Prescription for Evidenced Based Programs



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University of Miami Miller School of Medicine

Department of Pediatrics



IT STARTS IN PARKS!

FIT2PLAY[®]



PARTNERSHIP

Scientific Study to Generate Evidence-Based Findings

Longitudinal cohort study to determine the effect of Fit2Play on preventing overweight and obesity among 5-to-14 (up to 24 years old in disabled sample) year olds in 35 Miami-Dade County parks.

UM faculty and staff trained MDC Parks field staff in measurement of:

- height & weight
- waist & hip circumference
- skinfold measures (4 sites)
- blood pressure

PARTNERSHIP

Scientific Study to Generate Evidence-Based Findings

Data Collection and Analysis Component

- Web-based data collection program; Data automatically uploaded to UM server from the parks
- Data housed on UM data servers
- UM faculty analyze data
- UM/Parks jointly publish findings



DESCRIPTIVE STATISTICS

Mean Age 8.9 years, (range 5-16)
N=766 (2010-2014)

Gender	%
Boys	48
Girls	52
Ethnicity	
Hispanic	52
Black	43
White	4
Other	1



ANTHROPOMETRIC KEY FINDINGS

Normal Weight

Overweight

Obese

	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P
	Mean ± se	Mean ± se		Mean ± se	Mean ± se		Mean ± se	Mean ± se	
BMI z score	-0.1 ± 0.1	0.0 ± 0.1	0.01	1.2 ± 0.1	1.2 ± 0.1	0.72	2.0 ± 0.1	1.9 ± 0.1	<0.01
BMI %ile	51.0 ± 1.9	52.4 ± 1.9	0.01	87.0 ± 2.4	86.0 ± 2.5	0.36	98.1 ± 2.1	91.9 ± 2.2	<0.01
Σ of Skinfolds (mm)	36.5 ± 2.2	35.2 ± 2.2	0.09	58.0 ± 2.7	56.0 ± 2.7	0.19	76.3 ± 2.6	74.1 ± 2.6	0.15

*Generalized linear mixed models adjusted for ethnicity, year and park location



BLOOD PRESSURE KEY FINDINGS

	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P
	Mean ± se	Mean ± se		Mean ± se	Mean ± se		Mean ± se	Mean ± se	
Systolic mm Hg	107.8 ± 0.9	106.5 ± 0.9	0.01	112.3 ± 1.2	109.2 ± 1.1	<0.01	115.7 ± 1.0	112.5 ± 1.0	<0.01
Diastolic mm Hg	66.9 ± 0.8	65.1 ± 0.8	<0.01	67.4 ± 1.0	65.1 ± 1.0	<0.01	68.6 ± 0.9	67.1 ± 0.9	0.01
SBP Pre-HTN	11.7 ± 3.2	7.5 ± 2.3	0.03	9.3 ± 3.5	7.8 ± 3.1	0.66	14.4 ± 4.3	10.4 ± 3.4	0.23
SBP HTN	12.4 ± 2.7	10.1 ± 2.3	0.28	27.9 ± 6.1	14.1 ± 4.1	0.01	36.8 ± 6.1	26.0 ± 5.2	0.03
SBP normal	75.2 ± 4.1	82.2 ± 3.3	0.01	61.3 ± 6.8	78.0 ± 5.2	0.01	45.9 ± 6.2	62.1 ± 6.0	<0.01
DBP Pre-HTN	7.0 ± 2.3	6.0 ± 2.1	0.52	9.7 ± 3.7	5.0 ± 2.3	0.13	8.3 ± 3.0	7.6 ± 2.9	0.76
DBP HTN	6.7 ± 2.2	4.2 ± 1.5	0.05	5.9 ± 2.6	4.2 ± 2.0	0.47	8.8 ± 3.2	5.0 ± 2.1	0.09
DBP normal	84.7 ± 3.3	88.9 ± 2.6	0.05	82.8 ± 4.7	90.2 ± 3.3	0.08	80.6 ± 4.6	86.4 ± 3.7	0.12

*Generalized linear mixed models adjusted for ethnicity, year and park location



PHYSICAL FITNESS KEY FINDINGS

	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P
	Mean ± se	Mean ± se		Mean ± se	Mean ± se		Mean ± se	Mean ± se	
Sit-ups (#)	21.0 ± 1.4	24.5 ± 1.6	<0.01	21.0 ± 1.7	24.3 ± 1.8	<0.01	19.6 ± 1.4	22.9 ± 1.6	<0.01
Push-ups (#)	18.5 ± 1.3	22.0 ± 1.5	<0.01	17.4 ± 1.7	21.8 ± 1.9	<0.01	14.9 ± 1.3	18.7 ± 1.5	<0.01
Pacer Test (laps)	13.5 ± 1.5	15.5 ± 1.7	<0.01	12.9 ± 1.5	13.5 ± 1.6	0.37	10.7 ± 1.2	12.7 ± 1.4	<0.01
Sit & reach (in)	27.4 ± 0.7	27.3 ± 0.6	0.493	26.9 ± 0.9	26.9 ± 0.8	0.93	26.0 ± 0.8	25.7 ± 0.7	0.44
Run time (sec)	146.5 ± 16.6	133.2 ± 16.5	<0.01	149.8 ± 18.2	134.2 ± 17.7	0.02	173.3 ± 17.3	160.9 ± 16.9	0.02

*Generalized linear mixed models adjusted for age, sex, ethnicity, year and park location



HEALTH AND WELLNESS FINDINGS

NUTRITION EDUCATION QUESTION

Being physically active is only for athletes
 It is healthy to eat fruits/vegetables at every meal
 Fruits & vegetables are full of nutrients & vitamins
 It is good to exercise an hour a day
 Watch TV instead of exercise
 I should limit the amount of TV
 How does being physically active help your body
 Identify the activity that is most physically active
 Identify the bad drink
 Overall Composite

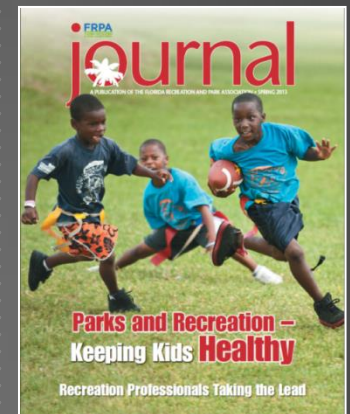
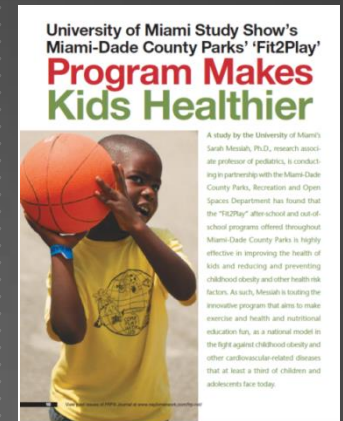
	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P	Pretest (Fall)	Posttest (Spring)	P
	Mean ± se	Mean ± se		Mean ± se	Mean ± se		Mean ± se	Mean ± se	
Total # correct	6.9 ± 0.2	8.0 ± 0.2	<0.001	6.6 ± 0.3	8.1 ± 0.3	<0.001	7.1 ± 0.3	8.1 ± 0.2	<0.001

*Generalized linear mixed models adjusted for age, sex, ethnicity, year and park location

NATIONALLY RECOGNIZED

Messiah SE, Diego A, Kardys J, Kirwin K, Hansen E, Nottage R, Ramirez S, Arheart KL. Effect of a park-based after-school program on participant obesity-related health outcomes. *Am J Health Promot*. 2015 Mar-Apr;29(4):217-25

Haney K, Messiah SE, Arheart KL, Hanson E, Diego A, Kardys J, Kirwin K, Nottage R, Ramirez S, Somarriba G, Binhack L. Park-based afterschool program to improve cardiovascular health and physical fitness in children with disabilities. *Disabil Health J*. 2014 Jul;7(3):335-42.



LESSONS LEARNED

- Every member of the team is valuable
-
- Communication is key
-
- No study is perfect
-
- Effort is for the greater good (children's health)



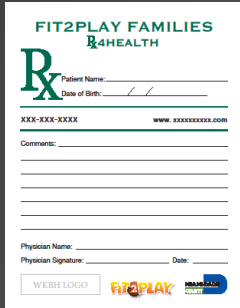
CONCLUSIONS

- ✓ 1. Collectively maintained (and improved) healthy weight and body mass index (BMI) throughout the school year
- ✓ 2. Lowered their blood pressure (increased healthy BP)
- ✓ 3. Improved their physical health, fitness levels and knowledge about nutrition and healthy lifestyle behavior
- ✓ 4. Children with disabilities equally benefit

THE POWER OF PARKS TO CREATE HEALTHIER COMMUNITIES

NEXT STEPS: PARKS RX 4HEALTH

Fit2Play® Families: Parks Rx 4Health

A registration form for the Fit2Play Families Rx4Health program. It includes fields for Patient Name, Date of Birth, and a comments section. At the bottom, there are checkboxes for WKHH Logo, FIT2PLAY, and a small logo for the University of Miami Health System.

can be

- a treatment alternative to overweight / obese / inactive patients (youth and adults)
- or a preventative option for patients that show signs....

Youth Rx Patients

Fit2Play® Afterschool Program: an evidenced based curriculum that includes:

- 45 minutes physical activity daily
- Nutrition lessons)
- LifeSports
- Recreation Games



Adult Rx Patients

- Walk for Life (self-directed program)
- Yoga
- Zumba
- Tai Chi
- EnhanceFitness (low impact aerobic exercise)
- Outdoor exercise



University of Miami Miller School of Medicine

collects pre and post measures and provides an ongoing analysis to determine treatment effectiveness. Measures include:

Height
Blood Pressure
Skinfold measures
Timed Sit-ups
400 meter run

Weight
Heart Rate
Hip and Waist circumference
Timed Push-ups
Sit and Reach

DR. LOURDES Q. FORSTER, MD FAAP

MEDICAL DIRECTOR

University of Miami Miller School of Medicine

UHealth Pediatrics



PARKS RX 4HEALTH

A Park Prescription Program through
pediatric offices

Parks Rx 4Health

YOUTH PROGRAM



FIT2PLAY FAMILIES

UHEALTH PEDIATRICS MEDICAL CAMPUS



PARKS RX 4HEALTH



PARKS RX 4HEALTH

- ▶ Parks near our families
- ▶ Data driven tracking of zip codes with kids most at risk for obesity



PARKS RX 4HEALTH



PARKS RX 4HEALTH PROCESS

