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University Wellness Class Impact on Cardiorespiratory Fitness of Overweight/Obese Students

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BACKGROUND AND PURPOSE OF STUDY

Overweight/obese adults have significantly higher rates of hypertension and CVD than individuals with desirable BMIs (Must et. al., 1999). Regular MVPA significantly improves cardiorespiratory fitness in adults and the USDHHS (2008) recommended American adults 18-65 engage in 150 minutes of MVPA per week to control weight, improve health and reduce mortality rates. Physical activity rates drop significantly in adolescence and continue into adulthood (Haskell et. al., 2007). University of the Incarnate Word requires undergraduate students take a 2 hour credit 15 week wellness class to improve health and cardiorespiratory fitness levels of students as a graduation requirement. The wellness curriculum requires students perform 1 hour of structured aerobic exercise per week in class and 30 minutes outside of class to fulfill class requirements. This study wanted to determine if the curriculum produced significant improvements in 1 ½ mile run times and cardiorespiratory fitness levels of overweight/obese students at the end of the semester.

METHODS

Participants

Permission for the study was obtained from the university IRB. Data were collected from 61 overweight/obese participants (45 females and 16 males) with an average age of 22. Students with BMI rates from 25 – 29.99 were classified as overweight and students with BMIs over 30 were classified as obese.

Instrumentation

Pre and post 1 ½ mile run times were collected 15 weeks apart and Cooper Institute norms (2005) were used to assess cardiorespiratory fitness levels of subjects. T-tests were used to determine significant differences in run times and cardiorespiratory fitness levels with level of significance set at $p < .05$.

RESULTS

Pre and Post Test 1 ½ Mile Run Times

	Mean	N	SD	SEM
Pre 1 ½ Mile Time	1074.58	60	266.119	34.356
Post 1 ½ Mile Time	996.55	60	224.938	29.039

Pre and Post Aerobic Fitness Levels

	Mean	N	SD	SEM
Pre-Test AF Level	1074.58	60	266.119	34.356
Post-Test AF Level	996.55	60	224.938	29.039

T-Test Results for Pre/Post Test 1 ½ Mile Run Times

	M	SD	SEM	t	p
Pre/Post 1 ½ Mile Run Times	78.033	137.25	17.72	4.404	.000

T-Test Results for Pre/Post Test Aerobic Fitness Levels

	M	SD	SEM	t	p
Pre/Post Aerobic Fitness Levels	-5.69	10.823	1.397	4.068	.000

Average pretest 1 ½ mile run times of subjects were 17 minutes and 55 seconds with a Cooper cardiorespiratory level of 23.65. The posttest 1 ½ mile average run times were 16 minutes and 36 seconds with average Cooper Institute cardiorespiratory levels increasing to 29.33. T-tests determined significant positive improvements in both the 1 ½ mile run times and the cardiorespiratory fitness levels of the overweight and obese students at the end of the semester. Run times improved by 78 seconds (9.26%) and the average cardiorespiratory fitness levels improved by 8.06%. Both results were significant at the .000 level.

DISCUSSION

The researchers found that a university wellness class that provided overweight and obese students with 1 ½ hours of structured aerobic physical activities per week for 15 weeks was able to significantly improve their cardiorespiratory health and fitness levels by the end of a 15 week semester of instruction.

REFERENCES

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