



# Depression Level Changes with Multi-professional Weight Loss Program Compared to Standard Weight Loss Program



Audrey Hall, MS, RDN, LDN, CDCES; Vicky Green, PhD, RD, LDN; Simone Camel, PhD, RDN, LDN; Catherine Fontenot, PhD, RDN, LDN;

Louisiana Tech University

## Introduction

According to the World Health Organization, two billion people worldwide are overweight with a third being classified as obese. In Smith County, Texas, the estimated percentage of adults in the obese category was 39.4% in 2016 showing that local accessible and effective resources are needed to assist individuals with weight loss. The causes and treatments associated with the obesity epidemic are complex. Factors of importance are environmental, behavioral, and genetic. The obese population suffers from a higher incidence of psychopathologic disorders such as anxiety, dysfunctional emotion regulation, and major depression. Depression may contribute to the difficulty of behavior change and weight loss. In recent years, research has established that interdisciplinary weight loss treatment plans improve long-term weight loss outcomes.

## Purpose

The purpose of this study was to examine whether depression and weight loss differed after a 6-month weight loss treatment with a multi-professional (RD, MD, and PsyD) approach compared to a physician-only treatment approach.

## Methods

Participants in the study were a sample of 100 patients who were treated for weight loss for at least six months in the UT Health East Texas Physicians North Campus Tyler - Weight Management clinic from January 1, 2016 to February 24, 2020.

A retrospective chart review was conducted to collect weights, frequency of visits with physician, dietitian, and psychologist, demographic information, and Patient Health Questionnaire-9 (PHQ-9) scores. The PHQ-9 is a multipurpose instrument for screening, diagnosing, monitoring, and measuring the severity of depression by self-report. Scores were collected at baseline and at 6 months. T-tests and ANOVA were used to compare variables.

## Results

Patients ( $N=100$ ) included 86 females and 14 males, 66% were white, 32% African-American; the mean age was 47.9 years. Forty-nine percent had been diagnosed with hypertension, 10% had cardiovascular disease, 28% had diabetes or prediabetes, and 5% had both cardiovascular disease and diabetes. Only 33% of the patients chose to participate in the multi-professional group. The physician-only treatment group had a higher but non-significant mean weight loss ( $M=17.94$ ;  $SD=17.73$  pounds) after six-months compared to the multi-professional treatment group ( $M=16.44$ ;  $SD=13.69$  pounds), ( $t(98)=.426$ ,  $p>.05$ ). Additionally, the physician-only group had a lower but non-significant mean ( $M=0.09$ ,  $SD=2.99$ ) for PHQ-9 change over the course of 6 months compared to the multi-professional group ( $M=0.48$ ;  $SD=3.09$ ) ( $t(98)=-1.580$ ,  $p>.05$ ).

Table 1  
Gender and Age of Participants by Race/Ethnicity

Variable	African-American ( $n=32$ ) No. (%)	White ( $n=66$ ) No. (%)	Asian ( $n=1$ ) No. (%)	Hispanic or Latino ( $N=1$ ) No. (%)	Total
<b>Gender</b>					
Male	4 (4%)	10 (10%)	0 (0%)	0 (0%)	14 (14%)
Female	28 (28%)	56 (56%)	1 (1%)	1 (0%)	86 (86%)
<b>Age Group</b>					
18-30	5 (5%)	6 (6%)	0 (0%)	0 (0%)	11% (11%)
31-40	3 (3%)	10 (10%)	0 (0%)	1 (1%)	14% (14%)
41-50	29 (29%)	19 (19%)	1 (1%)	0 (0%)	33% (33%)
51-60	9 (9%)	14 (14%)	0 (0%)	0 (0%)	23% (23%)
61+	3 (3%)	17 (17%)	0 (0%)	0 (0%)	20% (20%)

Table 2  
Mean Differences in Weight Loss and PHQ-9 ( $N=100$ )

	Physician ( $n=67$ )		Multi-professional ( $n=33$ )		$t(98)$
	Mean	$SD$	Mean	$SD$	
Weight Loss	17.94	17.73	16.44	13.69	0.43
PHQ-9 score	0.09	3.00	0.48	3.10	-0.61

\* $p<.05$

Table 3

Correlations among Weight Loss Change, Number of MD visits, Number of RD visits, and Number of Psych Visits

Variable	1	2	3	4
1. Weight Loss	--	0.288**	0.224	0.262
2. MD visit	0.288**	--	0.111	0.054
3. RD visit	0.224	0.111	--	0.684*
4. Psych visit	0.262	0.054	0.684*	--

\*\* $p<0.01$ , \* $p<0.05$

## Conclusion

Results in this small sample indicated that weight loss and depression scores were not significantly different between the multi-professional and the physician-only groups. Further research is needed to determine the impact of comorbidities, strategies for sustaining weight loss past 6 months of treatment, and ways to increase participation in multi-professional care for weight loss treatment.

## Strengths/Limitations

Limitations of this study are the small sample size participating in the multi-professional therapy. Strengths are a look at a real, in-place weight loss program and the identification of areas of improvement to better serve our population.

## Recommendations

Further research should include evaluating ways to assist patients with sustaining weight loss past 6 months of treatment. Further investigation is needed to strategize increased participation in and access to multi-professional care for weight loss treatment.