

INTRODUCTION

Problem: African Americans (14%) compared to non-Hispanic whites (7%), experience higher rates of Type 2 Diabetes Mellitus.¹ This disparity in rates of diabetes is partly attributed to the disproportionately higher prevalence of overweight and obesity among African Americans (77%) compared to whites (67%).² While United States (US) obesity trends are leveling off in other races, obesity continues to trend upward among African Americans.³

Aim: The aim of Fit Body and Soul was to test the efficacy and cost utility of a culturally-adapted Group Lifestyle Balance Program, a derivative of the Diabetes Prevention Program, implemented by church health advisors in 20 southeastern US African-American churches, compared to a health education program developed from the topics of the CDC Guidelines for Healthy Americans.⁴⁻⁵

Inclusion: Non-diabetic, age 20–64 years, self-described African-American men and women, BMI ≥ 25 kg/m²

Exclusion: Medical contraindications to physical activity, physical conditions or medications that may affect glucose metabolism, behaviors that may interfere with participation, illnesses that would limit life span, and pregnancy

METHODS

Fit Body and Soul was developed using principles of community-based participatory research methods. Randomization occurred at the church level and 604 African American overweight/obese (BMI ≥ 25 kg/m²) adults with fasting plasma glucose range from normal to pre-diabetic received either Fit Body and Soul or a health-education program.

Fit Body and Soul is a group-based, multi-level intervention. Investigators trained four church health advisors (CHAs) who were health professionals from within the church to deliver the sessions. Participants in both groups attended 12 weekly 1-hour core sessions, followed by 6 once-monthly post-core sessions. Intervention goals for Fit Body and Soul were $\geq 7\%$ weight loss and achieving 150 min/week of physical activity.

Each Fit Body and Soul session began with prayer, included a private weigh-in and a group session. CHAs discussed relevant scriptures and presented new session content. Motivational-interviewing was used to explore participant barriers to weight loss and physical activity. Participants received intervention-enhancing materials such as weekly food and activity diaries, a fat and calorie counter book, a pedometer, and a resistance band. Each session ended with the participants standing and reciting a motivational scripture.⁶

The data collection points were baseline, 12 and 52 weeks post-intervention. Data were collected by the trained research team. The intervention was completed in three and a half years. The primary outcome was weight change at 12 weeks post-intervention. Secondary outcomes included hemoglobin A1C, fasting plasma glucose, waist circumference, blood pressure, physical activity level, quality of life measures, and cost-effectiveness.

RESULTS

Table 1. Characteristics of Participants at Baseline

Variable	Fit Body and Soul (n = 317)	Health Education (n = 287)	p value
Female (%)	267 (84)	237 (83)	0.586
Age (year)	47 \pm 11	46 \pm 11	0.825
Weight (kg)	98 \pm 21	99 \pm 22	0.775
Body-mass index	36 \pm 7	36 \pm 8	0.797
Waist circumference (cm)	108 \pm 15	107 \pm 16	0.398
Systolic BP	130 \pm 17	131 \pm 16	0.908
Diastolic BP	83 \pm 10	82 \pm 10	0.428
Hemoglobin A1C (%)	5.8 \pm 0.5	5.8 \pm 0.5	0.335
Fasting plasma glucose (mg/dl)	90 \pm 10	90 \pm 9	0.808
Total physical activity (MET)	2634 \pm 3809	2941 \pm 4530	0.461
Euro-QoL Visual Analog Scale	78 \pm 16	79 \pm 15	0.258

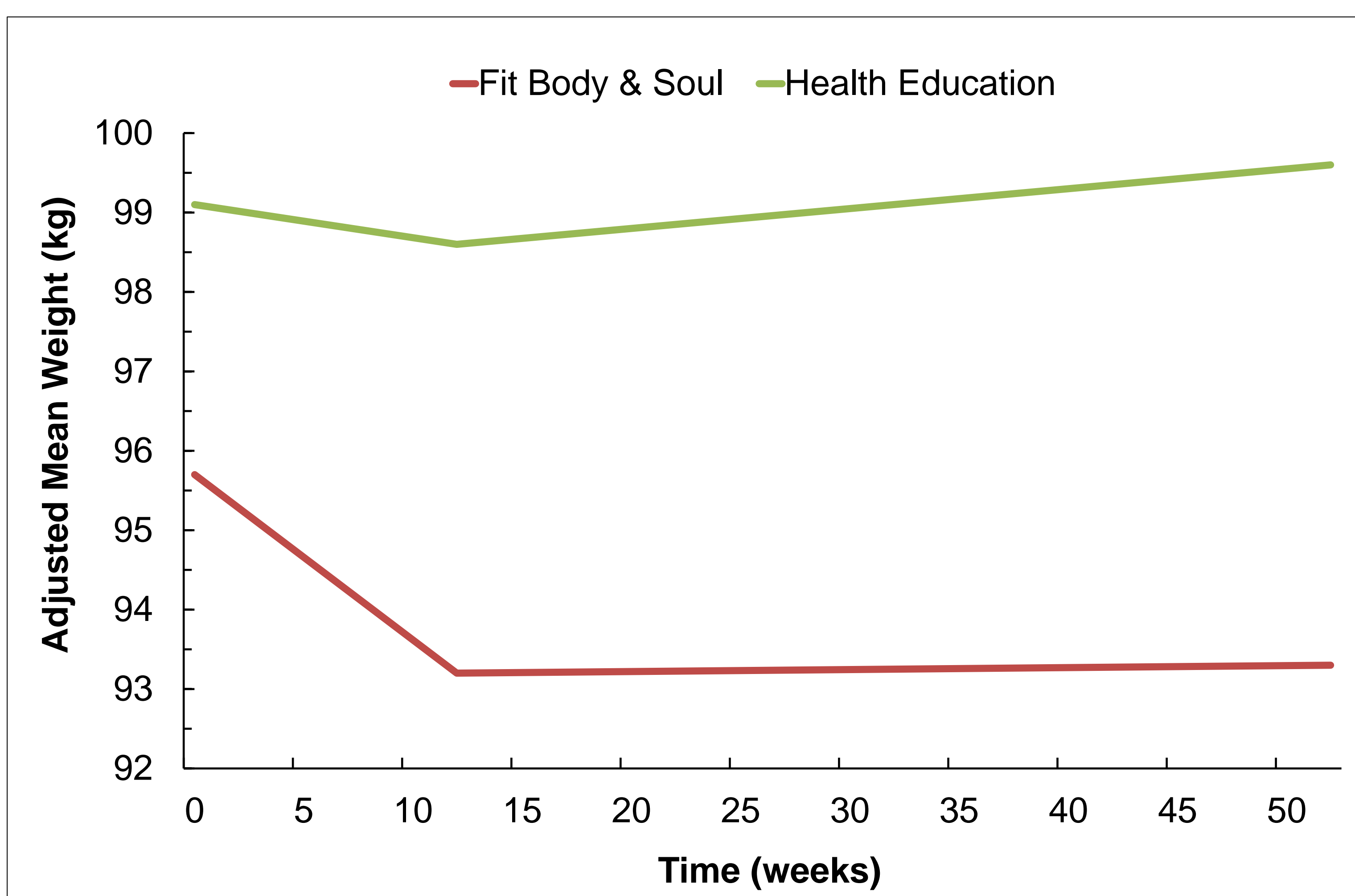


Figure 1. Adjusted marginal mean weight by time and intervention. Weight loss among Fit Body and Soul (FBAS) participants at 12 weeks post-intervention was 2.62 kg compared to 0.501 kg for the Health Education (HE) participants ($p = 0.001$). FBAS participants maintained the initial weight loss at 52 weeks compared to the HE participants ($p = 0.005$).

Table 2: Percentage of weight loss at 12 and 52 weeks post-baseline

Weight loss	Intervention	12 Weeks		52 Weeks	
		n (%)	Total	n (%)	Total
$\geq 3\%$	FBAS	128 (44)	293	109 (39)	282
	HE	42 (16)	260	55 (22)	248
$\geq 5\%$	FBAS	76 (26)	293	75 (27)	282
	HE	17 (7)	260	32 (13)	248
$\geq 7\%$	FBAS	38 (13)	293	53 (19)	282
	HE	9 (3)	260	20 (8)	248

CONCLUSIONS

- There was a significant weight loss for FBAS group compared to HE group at 12 weeks and they maintained the significant weight loss for one year.
- The percentage of those participants achieving at least 3%, 5%, or 7% weight loss at either 12 or 52 weeks post-baseline was significantly greater for the FBAS intervention compared to the HE intervention ($p < 0.001$).
- Diabetes Prevention Programs conducted in faith-based settings can achieve significant weight loss comparable to other community settings.
- Trained CHAs supported by researchers are effective Diabetes Prevention Program interventionists and may aide in the long-term sustainability of the program.
- Fit Body and Soul is the largest known cohort of African Americans enrolled in a faith-based Diabetes Prevention Program translational study.
- Future studies are warranted to determine the session intensity and duration necessary to affect continued weight loss after the core sessions.

REFERENCES

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