

Group Lifestyle Balance DVD: A Novel Media Approach to Implementing Primary Prevention

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Abstract

Objective: To develop and deliver a modified version of Diabetes Prevention Program (DPP) lifestyle intervention via DVD.

Methods: The University of Pittsburgh Diabetes Prevention Support Center (DPSC) modified the DPP lifestyle intervention to Group Lifestyle Balance (GLB), a 12-session group program with goals of 7% weight loss and 150 minutes/week of physical activity. A DVD of the program was subsequently created in collaboration with the US Air Force Center of Excellence for Medical Multimedia. Patients of a California primary care practice with pre-diabetes and/or the metabolic syndrome have been enrolled in a long-distance pilot project to evaluate the DVD. Participants chose GLB-GROUP or GLB-DVD delivery. Participants that selected GLB-DVD delivery viewed one session of the GLB-DVD each week; a DPSC prevention professional contacted the participants via telephone weekly to provide support. Participants in GLB-GROUP met face to face with a prevention professional weekly. Both groups monitored food intake and physical activity. All participants completed baseline assessment visits; participants are currently being followed for one year.

Results: A total of 48 participants enrolled in the pilot study, (34 female, 14 male). Participants were primarily white (83%), with a mean age of 59.7 years. The mean BMI, glucose, triglyceride, and blood pressure levels were 34.1 kg/m², 102.4 mg/dl, 146.7 mg/dl, and 124/72 mm/Hg respectively. Twenty-six participants chose face to face group and 22 chose the DVD delivery mode.

Conclusion: The GLB-DVD could offer an alternative option for diabetes prevention intervention delivery.

Background

•The Diabetes Prevention Program (DPP) lifestyle intervention was shown to reduce risk for diabetes and the metabolic syndrome, and also to reduce risk factors for cardiovascular disease (CVD).

•The Diabetes Prevention Support Center (DPSC) of the University of Pittsburgh Diabetes Institute provides training and support for health care professionals in delivery of the Group Lifestyle Balance (GLB) program, an adaptation of the DPP lifestyle intervention.

•The GLB is a 12-session group program with the same goals as the DPP intervention: weight loss of 7% and 150 minutes per week of physical activity.

•A DVD of the GLB program was developed in collaboration with the U.S. Air Force Center for Excellence in Medical Multi-media.

•A variety of delivery modes for lifestyle intervention are needed in order to maximize potential for exposure in translation intervention to “real-world” settings.

•The objective of this project is to deliver the Group Lifestyle Balance Program, an adaptation of the Diabetes Prevention Program lifestyle intervention via DVD with long-distance support provided by the DPSC.

Eligibility Criteria

•Patients of a California primary care practice

•Males and females age 18 years and older

•No previously reported diabetes

•BMI ≥ 25 kg/m² AND

Pre-diabetes (FPG 100 mg/dl – 125 mg/dl)

OR

At least 3 components of the metabolic syndrome (NCEP ATP III)

1. Waist circumference > 102 cm in males or > 88 cm in females
2. Fasting triglycerides ≥150 mg/dl
3. Low high density lipoprotein (HDL) cholesterol <40 mg/dl for men and <50 mg/dl for women
4. Blood pressure ≥130/85 mm/Hg or history of hypertension.
5. Elevated fasting glucose ≥100 mg/dl, but less than 126 mg/dl

•Not pregnant

•Physician referral and ability to provide informed consent

Study population and Recruitment

•Study participants were patients of a California primary care practice.

•Patients with pre-diabetes and/or the metabolic syndrome were invited to take part in the GLB program.

•Patients chose GLB-Group (traditional group setting) or GLB-DVD delivery mode following a real-world model of preference for delivery mode.

Methods

•Prospective, non-randomized design .

•Primary outcome in each group is weight loss and achievement of the program goals; secondary outcomes include change in fasting glucose and other risk factors for cardiovascular disease including lipids and waist circumference.

•All study participants attended a baseline assessment visit prior to beginning the intervention, and will be followed for 12 months.

•GLB-GROUP: DPSC trained diabetes educators deliver the 12 weekly 1-hour sessions over 12-15 weeks.

•GLB-DVD: Participants complete the 12 GLB sessions on their own with weekly phone support provided by the DPSC preventionist.

•All study participants receive a fat and calorie tracking book, a pedometer and booklets for self-monitoring weight, eating and physical activity.

•GLB-GROUP participants are invited to attend monthly meetings at completion of core courses for measurement of weight and reporting of physical activity; GLB-DVD participants receive monthly support phone calls from the DPSC preventionist.

Baseline Results

•A total of 48 participants enrolled; 26 patients chose GLB-GROUP and 22 chose GLB-DVD.

•A higher proportion of males enrolled in GLB-DVD than GLB-GROUP (41% vs. 19%, p=0.10) and a higher proportion of those who enrolled in GLB-DVD versus GLB-GROUP reported having some college or higher level education (86.4% vs. 61.6%, p=0.05).

•Those in GLB-DVD had a significantly higher mean fasting glucose (107.6 mg/dl versus 99 mg/dl, p=0.008) but significantly lower HbA1c level (5.8% vs. 6%, p=0.04)

Baseline Characteristics

	FBD (n=22)	FBG (n=26)	P value
Non Caucasian N(%)	3 (13.6)	4 (15.4)	1.0
Female, N(%)	13 (59.09)	21 (80.77)	0.10
Some college, college grad, graduate degree N(%)	19 (86.36)	16 (61.54)	0.05
Employed N(%)	13 (59.09)	12 (46.15)	0.37
Age, mean(SD), y	57.26 (13.58)	61.04 (11.89)	0.32
Weight, mean(SD), lbs	211.64 (43.54)	211.64 (52.38)	0.99
BMI, mean (SD), kg/m ²	32.85 (6.14)	35.09 (6.94)	0.25
Total cholesterol, mean(SD), mg/dl	183.00 (39.38)	190.92 (41.78)	0.51
HDL, mean(SD), mg/dl	46.95 (10.96)	52.46 (12.05)	0.11
LDL, mean(SD), mg/dl	104.33 (36.29)	111.65 (37.61)	0.50
Triglycerides, median (q1 – q3), mg/dl	129 (75 - 189)	124 (95 - 163)	0.89
Blood glucose, mean(SD), mg/dl	107.57 (9.17)	99.04 (11.37)	0.008
HbA1c, mean (SD)	5.81 (0.30)	6.02 (0.35)	0.04
Systolic blood pressure, mean(SD), mmHg	122.11 (10.74)	124.54 (15.15)	0.53
Diastolic blood pressure, mean(SD), mmHg	71.11 (8.45)	73.40 (9.56)	0.39
Waist, mean(SD), inches	42.92 (5.43)	43.67 (6.70)	0.67

Conclusion

Participants with pre-diabetes and/or the metabolic syndrome enrolled in the Group Lifestyle Balance program and chose either GLB-GROUP or GLB-DVD delivery mode following a real world model. A higher proportion of males enrolled in GLB-DVD than GLB-GROUP and a higher proportion of those who enrolled in GLB-DVD reported having some college or higher level education. No other differences in baseline demographic characteristics were noted. Participants will be followed for one year. If shown to be effective, the GLB-DVD could provide an alternative mode for delivery of lifestyle intervention for diabetes prevention.



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