Adherence to a lifestyle modification program: What can baseline differences tell us?

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Background

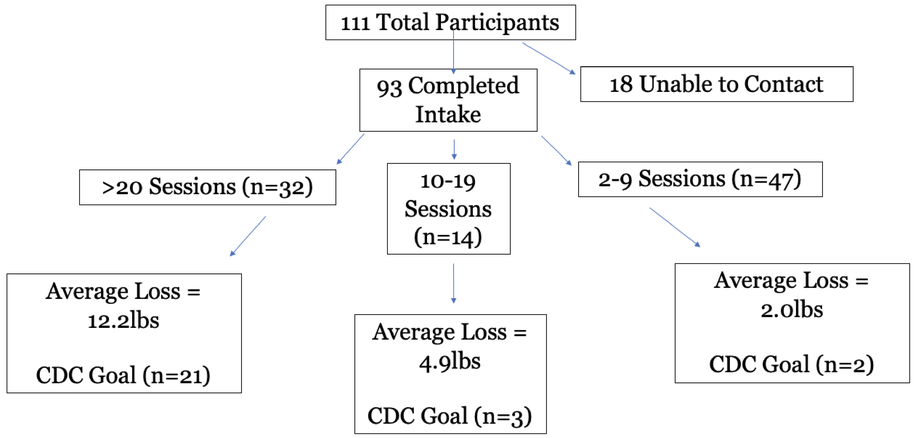
- The prevalence of diabetes and obesity are on the rise in the United States
- Grant and Blackford counties in Indiana, rates of length of life, overall health and quality of life are ranked as some of the lowest in the state.
- From 1988 to 2016, the percentage of adults that are overweight or obese (BMI over 25.0) has increased from 56.0% to 70.9% .
- Obesity causes at least 2.8 million adult deaths per year and is ranked as the fifth leading cause of death in the world
- For public health professionals, the effort to both achieve and maintain beneficial weight loss remains a challenge.

PURPOSE: The purpose of this study is to examine the factors for adherence to lifestyle modification programs.

Abstract

Objective: Obesity is a major risk factor for diseases such as cardiovascular disease, cancer, and diabetes. To date, lifestyle modification programs have been shown to be effective in reducing obesity and related diseases, however, adherence to such programs is often poor. Therefore, the purpose of this study was to examine baseline differences between individuals who adhered to a lifestyle modification program and those who did not. **Methods:** Older adults (N=90, mean age=77.6 years) who were enrolled in a lifestyle intervention program volunteered to participate in this study. During the participants' intake sessions, three questionnaires were administered to assess participants' perceived stress, social support, and general physical functioning. Following the completion of these questionnaires, participants also performed a series of functional fitness assessments including a 4-square step test (mobility), an 8-foot up-n-go task (gait speed), a chair stand test (lower body strength), and a 6-minute walk test (exercise capacity). **Results:** Participants (n=42) who completed at least 10 weeks in the program were classified as adherent while participants (n=48) who dropped out prior to 10 weeks were considered non-adherent. At baseline, body weight was not significantly different between the adherent and the non-adherent ($p > .05$). However, the adherent group reported significantly lower perceived stress and significantly higher social support, perceived physical functioning, and perceived overall general health ($p < .05$). Moreover, the adherent group was significantly faster on the 8-foot up-n-go task, performed more stands on the chair stand test, and walked significantly further during the 6-minute walk test ($p < .05$).**Conclusion:** The results from this study suggest that participants who demonstrate lower stress, higher social support, and better physical functioning (by both self-report and objective assessments) are more likely to adhere to a lifestyle modification program. These findings highlight that prevention needs to start early before function declines.

Methods



Clients are referred to the program by their primary care physician based on either the high risk of diabetes or diagnosis with pre-diabetes. The physician provides bloodwork information. The baseline session after a client's referral involves each client filling out a health history and six questionnaires on the following: mindfulness, perceived stress, social support, a 36-item short-form survey, and treatment self-regulation. Following the completion of these questionnaires, health educators perform a baseline blood pressure, weight reading, and functional fitness test. The elements of the functional fitness test that were utilized in this study consists an 8-foot-up-and-go test, a chair stand test, a 6-minute-walk test, and a four-square step test. This functional fitness test is repeated throughout the client's time in the program in order to assess whether an increase in functional fitness is taking place.

Results

Assessment	Adherers (n = 42)	Non-Adherers (n = 48)
Perceived stress Scale	12.8 +/- 65.8	227.7 +/- 52.5
Short-Form 36	71.3 +/- 14.6	57.4 +/- 17.8
6-Minute walk test (feet)	480.4 +/- 112.5	468.0 +/- 96.04
4 Up n GO (seconds)	6.8 +/- 1.5	8.0 +/- 2.4
Chair Stands	13.0 +/- 3.5	11.3 +/- 2.6

Adherence was characterized as staying in the program for 10 weeks or longer, while non-adherers dropped out before 10 weeks.

TAKEAWAY: Prevention needs to start early

Discussion

Individuals who adhered to the program were found to have a higher level of physical and social health than those who did not adhere to the program. Adherers showed lower baseline levels of perceived stress, higher baseline levels of self-reported health, higher baseline levels of social support, and higher baseline gait speed. Of adherers, those who lost the CDC-recommended 5-7% of their body weight started with higher levels of self-reported health, higher levels of social support, higher gait speed, and lower levels of perceived stress than those who did not lose 5-7% of their initial body weight. The results from those who adhered to the program showed a positive relationship between improved perceived health and improved functional health. those that completed at least 10 weeks had higher baseline mobility and gait speed. One limitation of this study and previous studies is that adherence is not a clearly defined parameter. Therefore, our definition of adherence is only significant to our study and is arbitrary in comparison to other studies. Another limitation of our study is the nature by which we obtained our pool of subjects: only patients who have been referred to our program by a physician were able to participate in a relatively small geographic area. Therefore, our participant pool represented a very small fraction of the greater population to which our results could be relevant.

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