

Strategies to Prevent Prediabetes Disease Progression

Among Geriatric Patients

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Background and Purpose

- Nearly half of adults aged 65 years or older are reported to be living with prediabetes (23.1 million)¹
- Individuals with prediabetes if left untreated will likely progress to type 2 DM with 5 years of onset²
- Elderly patients increased risk for development of type 2 DM³
- Estimated 1.5 million adults yearly are newly diagnosed with DM, 400,000 of them were over 65⁴

This quality improvement project sought to evaluate the effectiveness of a 12-week virtual evidence-based prediabetes education program in an outpatient setting for adults greater than 65 years old with prediabetes to address pre-diabetes knowledge and health indicators (weight, body mass index, and exercise logs).

Aims

1. Determine the impact of a 12-week virtual evidenced-based lifestyle change program for prediabetes on health indicators (weight, body mass index, and exercise logs).
2. Determine the effect of the 12-week virtual evidenced-based lifestyle change program for prediabetes measured by Diabetes Knowledge Pretest-Posttest.
3. Determine the feasibility of the 12-week virtual evidenced-based lifestyle change program for prediabetes by measuring group attendance rates and using a feasibility survey.

Method & Intervention

Design: 1-group pretest-posttest design
Sample: 23 participants met inclusion criteria, 8 completed study
Setting: Primary Care Practice in Southern Nevada (virtual)
Inclusion Criteria: ≥ 65 years old with diagnosis of prediabetes not currently treated with diabetes medication from 4 senior focused clinics in same zip code.

Intervention:

- 12- week, 6 virtual session using a modified CDC DPP
- 6 modules were conducted and recorded biweekly by the Primary Care Nurse practitioner
- Each participant was expected to complete post session survey online on self-collected data including exercise log (activity minutes and pedometers) and weights.

Participant Demographics

Table 1. Baseline Characteristics of Prediabetic Patient Participants

Demographic characteristics	(N = 23)
Age, mean (SD)	70.4 (7.5)
Sex, n (%)	
Male	7 (30.4)
Female	16 (69.6)
Weight (pounds), mean (SD)	172.35(42.59)
BMI, mean (SD)	28.7 (5.9)

SD=standard deviation

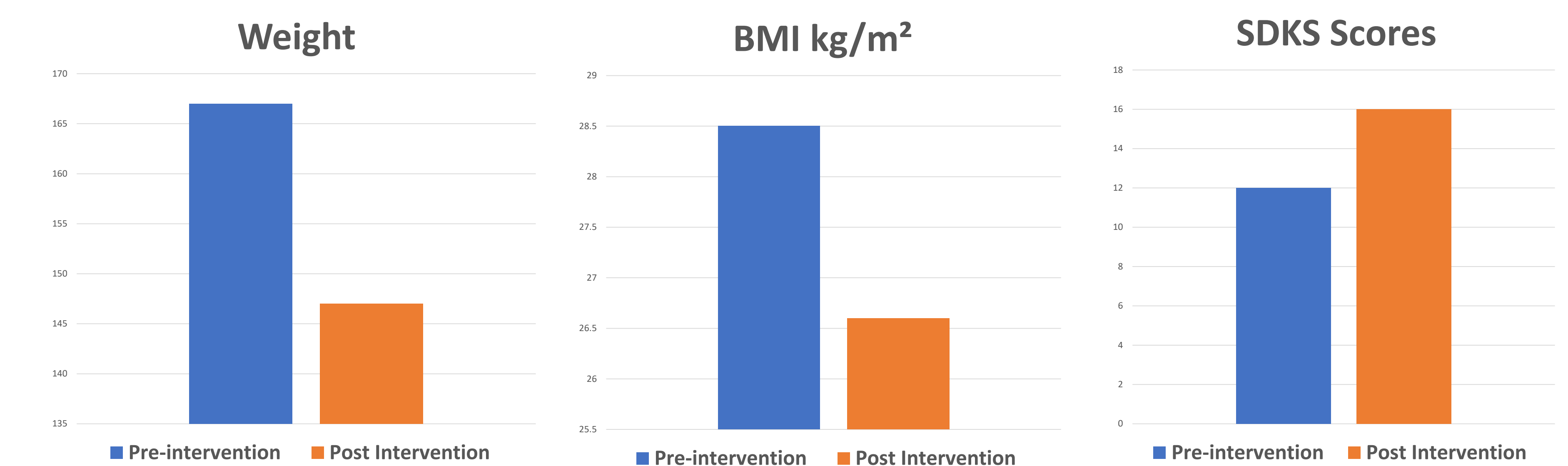
Table 2. Post Intervention Characteristics of Prediabetic Patient Participants

Demographic characteristics	(N = 8)
Age, mean (SD)	75.75 (6.5)
Sex, n (%)	
Male	1 (12.5)
Female	7 (87.5)
Pre Weight, mean (SD)	168(57.99)
Post Weight, mean (SD)	146(55.71)
Pre BMI, mean (SD)	29.56 (8.1)
Post BMI, mean (SD)	28.83 (7.7)

SD=standard deviation

Results

- 23 participants met inclusion criteria, 15 were lost during subsequent sessions
- 8 participants attended all six sessions virtually
- Statistically significant improvement (n=8)
 - median weight (167 pounds vs 147 pounds, $p < 0.028$)
 - median BMI (28.5 kg/m² vs 26.6 kg/m², $p < 0.028$)
 - median SDKS scores (12 vs 16, $P < 0.001$)
- No statistical significance
- Changes in mean activity minutes (281 vs 225, $p < 0.237$) and mean steps (42,065 vs 33,850, $P < 0.345$)



Conclusion/Implications

- This pilot study found that a virtual lifestyle education program can improve health indicators (weight/BMI) and pre-diabetes knowledge to address the needs of patients over the age of 65 with prediabetes.
- The pilot study found significant improvements in health indicators (weight/BMI) and health knowledge.
- Positive participant survey reports also indicate feasibility and consideration for long term implementation.
- A virtual lifestyle education program should be considered a standard of practice in primary care to address prediabetes for patients over the age of 65.