

# Group-Based Diabetes Self-Management Education Program to Improve Patient Health Outcomes

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## Background

- Diabetes Mellitus 2 [DM2] prevalence in an urban city in central Illinois increased from 7.3-9.6% within 10 yrs.
  - Secondary to poor health literacy, gaps in education and poor glucose control.
- Underserved clinic had 20-30% of patients with HgbA1c [A1C]  $\geq 9\%$ .
  - Inconsistent utilization of diabetes educators.
- A group-based diabetes self-management education program [DMSE] would address this gap through:
  - Discussion on DM2 management
  - Use of community resources
  - Increase social support

## Objective

- Implement a group-based, DSME program providing education and improving the diabetes management of patients with an A1C  $\geq 9\%$  at an underserved clinic in central Illinois.

## Methods

- Implementation of a 12-week, group-based DSME program for 1-2 hrs. per week.
- Pre and post-education measures:
  - A1C's
  - 16-item Likert scale: Diabetes self-management questionnaire [DSMQ]
  - Socio-demographics, BMI, and subjective post-education surveys.
- Subjects:** Adults diagnosed with DM2 and A1C  $\geq 9\%$  at the time of recruitment from the underserved clinic.

## Methods (continued)

- Procedure:** Session held once a week for 12-weeks.
- Topics:** Diabetes management, exercise, nutrition, community resources, and guest speakers (e.g. dietetic interns, exercise trainer, etc.).
- Compensation:** bus passes, snacks, drinks, and a \$20 grocery gift card.
- Analysis:** Descriptive statistics, paired *t*-test, and Wilcoxon Signed Ranks Test.



## Results

- 8 participants aged 18-65 years were recruited.
  - 5 females; 3 males
  - 4 African-Americans; 4 Whites
- 5 attended 5 sessions; 3 completed at least 10 sessions.
- Pre-program:** A1C's ranged from 9.1% to 13.1%.
- Post-program:** 5 participants' A1C reduced between 0.3% to 2.1%.
- Post-education survey:
  - Improved knowledge of DM2, portion control, reading food labels, medications, and social support.

## Results (continued)

- Paired *t*-test: A1C's mean difference = 1.10,  $p < .05$ .
- Wilcoxon Signed Ranks Test for DSMQ sum and sub-scales, no statistical significance.
- No statistical significance in pre and post-education self-management techniques.

## Conclusions

- Group education can have a significant impact towards improving A1C's.
- The DSMQ did not reveal differences in self-reported diabetes techniques.
- Self-reported increase in knowledge on diabetes, community support engagement, and lowering of A1C's.

## Implications

- The 12-week group education showed that further diabetes education and gain in social support will result to:
  - Significant improvement in A1C levels
  - Promote healthier living among patients with diabetes.

## Limitations

- Small sample size
- Non-randomized study design
- Duration of diabetes diagnosis not included
- Sample not representative of population