

DIABETES SELF-MANAGEMENT EDUCATION AND SUPPORT PROGRAMS AND GLYCEMIC CONTROL IN ADULTS WITH TYPE 2 DIABETES MELLITUS

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RESEARCH PROBLEM

- Type 2 diabetes (T2DM) affects approximately 34 million adults in the United States and was the 8th leading cause of death in 2020 (ADA, 2023)
- Complications from type 2 diabetes include, renal failure, vision impairment, blindness, lower extremity amputations, myocardial infarction, and stroke (Mendez et al., 2022)
- T2DM is mostly self-managed by patient at home with only 1% of their life spent seeing a healthcare provider (Davis et al., 2022)
- Self-management on any given day may entail, checking blood glucose levels and determining if treatment is needed, taking prescribed medications, determining what dose of medication is needed, deciding an appropriate meal choice, ensuring stock of diabetes testing and treatment supplies, dealing with medication shortages and insurance constraints



BACKGROUND AND SIGNIFICANCE

- DSMES aims to provide education to fully understand condition and maximize self-management efforts
- Person-centered approach to achieve and maintain health-promoting behaviors to improve quality of life (Mendez et al., 2022)
- DSMES program gives the opportunity to understand T2DM completely looking at a whole-body approach to managing the condition.
- With the educational topics and additional support provided by DSMES programs the goal of achieving better glycemic control (Wilson-Anumudu et al., 2021)
- Glycemic control is the target amount of blood sugar in the body (ADA, 2023)
- ADA defines good glycemic control is an HbA1c with a maximum of 7% (2018)

RESEARCH QUESTION

In adult patients diagnosed with T2DM does participation in a DSMES program improve glycemic control as compared to medical management alone?



PURPOSE

- DMES programs only exist in 43 states and in those states on 57% of counties
- In 2017 only 52% of those with a T2DM diagnosis had utilized a DSMES program (Wilson-Anumudu et al., 2021)
- People diagnosed with T2DM who participate in DSMES programs can lower their HgA1c by at least 0.6% which is comparable to some diabetic medication, as well as improve quality of life and reduce risk of hospitalization from complications (Davis et al., 2022)

CONCLUSION

- Improvement in glycemic control was seen with participation in a DSMES programs (Wilson-Anumudu et al., 2021)
- Addition of DSMES program allows for additional knowledge and skills required to successfully self-manage the chronic condition

METHODS

- **Hempler et al., 2023**
 - **Design:** mixed method study with both quantitative and qualitative research
 - **Inclusion Criteria:** 97 adults with a diagnosis of T2DM
 - **Intervention:** participating in a culturally sensitive DSMES program
 - **Control:** no control group
 - **Evaluation:** rating scale on fatigue, diabetes distress, general and emotional health. Reporting of clinical data; HbA1c, weight, BMI, HDL-C ration, body fat percentage
- **Mendez et al., 2022**
 - **Design:** cross sectional study with a quantitative design
 - **Inclusion Criteria:** random digit telephone survey to a sample population of adults over 18 years of age in 43 states
 - **Evaluation:** 81% of participants who responded they took part in a DSMES program had an HbA1c reduction of 0.45-0.57%
- **DiNardo et al., 2022**
 - **Design:** randomized clinical trial
 - **Inclusion Criteria:** 132 veterans over the age of 18 with a diagnosis of T2DM
 - **Intervention:** Standard DSMES program with addition of mindfulness techniques from a mobile app
 - **Control:** a single three-hour DSMES group session
 - **Evaluation:** questionnaires completed showed dietary behaviors and emotional effects improved
- **Wilson-Anumudu et al., 2021**
 - **Design:** single-arm, nonrandomized trial
 - **Inclusion Criteria:** 162 adults with a T2DM diagnosis, 130 participants with an HbA1c >7.5%, 32 participants with an HbA1c <7.5%
 - **Intervention:** the addition of a digital DSMES program with a remote monitoring program to the patients regular treatment plan
 - **Control:** patients regular treatment plan with no additional DSMES program
 - **Evaluation:** Data collected by questionnaires pre and post study; HbA1c reduction of 0.8%

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