

Diabetes Distress Moderates the Relationship between Quality of Life and Self-Care in Adults with Type 1 Diabetes

DeWitt Jones II, OMS II, Monet McCalla, OMS II, Elizabeth A. Beverly, PhD
Ohio University Heritage College of Osteopathic Medicine, Athens, OH 45701

Background

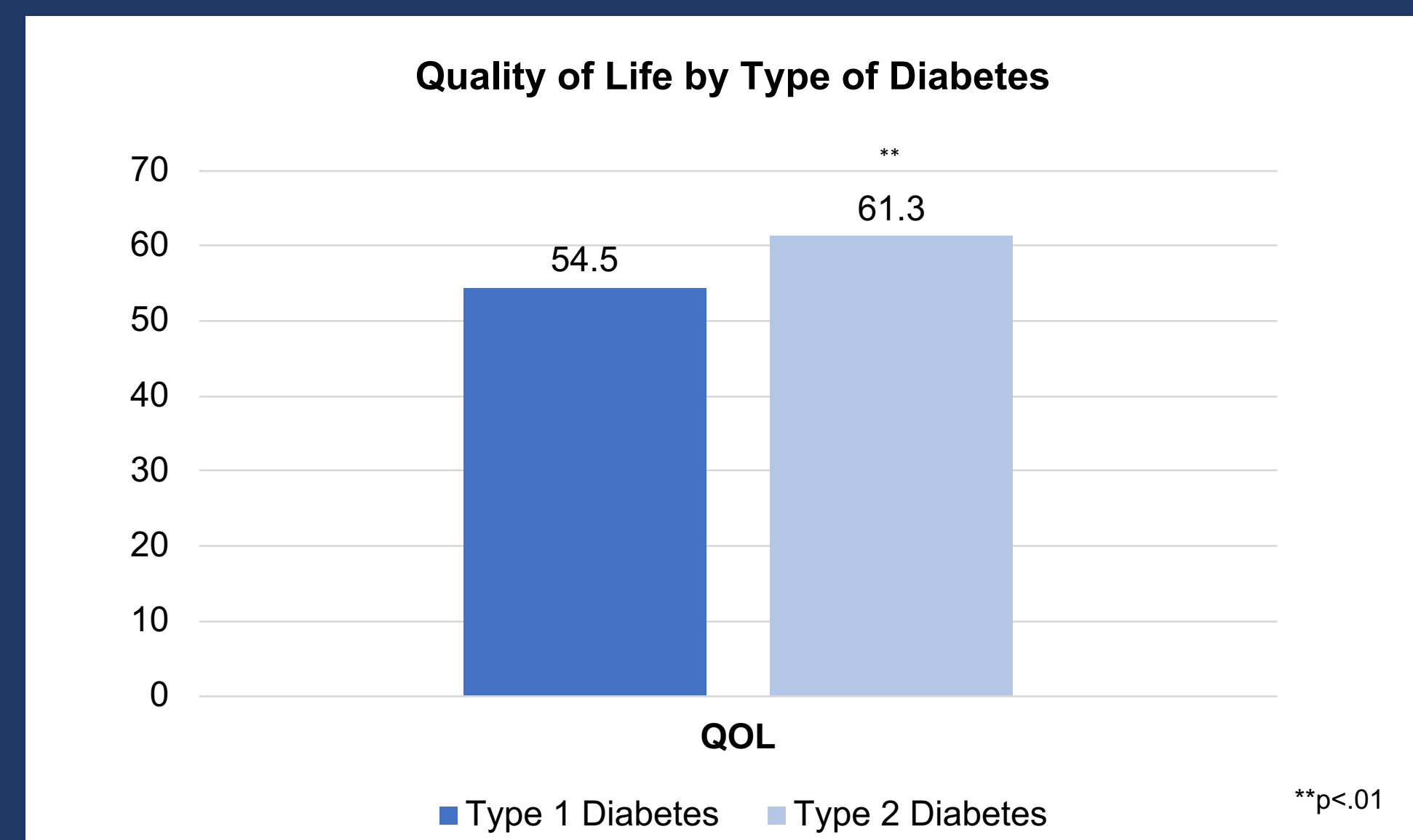
- In southeastern Appalachian Ohio, the prevalence of diabetes is 19.9%, which is more than double the national average of 9.4%.
- Despite the high rate of diabetes, its impact on the region is understudied.
- One critical outcome that has not been addressed is diabetes distress.
- Diabetes distress is the negative emotional experience of living with diabetes. It addresses a person's worries, concerns, and fears about living with a demanding, progressive illness.
- The purpose of this study was to assess the moderating effect of diabetes distress in the relationship between quality of life (QOL) and diabetes self-care in adults with type 1 (T1D) and type 2 diabetes (T2D) in rural southeastern Ohio.

Methods

- We conducted a cross-sectional survey study with adults with T1D and T2D in rural southeastern Ohio.
- Surveys were distributed electronically in Qualtrics and via mailed packets to adults with T1D and T2D, aged 18 years and older who were able to read and speak English, and living in southeastern Ohio.
- Participants completed the following measures:
 - Type 1 Diabetes Distress Scale (T1-DDS) or
 - Type 2 Diabetes Distress Scale (T2-DDS)
 - Patient Health Questionnaire-9 (PHQ-9)
 - Diabetes Quality of Life Scale (DQOL)
 - Self-Care Inventory-R (SCI-R)
- We conducted hierarchical multiple regression models using SPSS version 26.0. To avoid multicollinearity with the interaction terms, diabetes distress and QOL variables were centered.

Conclusions

- **In the present study, only T1D distress moderated the relationship between quality of life and diabetes self-care.**
- **Adults with T1D in rural southeastern Ohio may require additional support and resources to negate the negative effects of diabetes distress on quality of life and diabetes self-care.**



Results

- A total of 325 adults (age=41.6±19.2 years, 62.2% female, 86.5% white; 59.7% T2D, A1C=7.5±1.6%; duration=12.4±9.6 years) participated.
- Mean scores between diabetes distress (t=1.224, p=.222) and depressive symptoms (t=0.343, p=0.732) did not differ; however, participants with T2D reported lower QOL compared to participants with T1D (t= -3.016, p=.002).

Table 1. Summary of Hierarchical Regression Analysis Examining the Moderating Role of Diabetes Distress in the Relationship between Quality of Life and Diabetes Self-Care in Adults with Type 1 Diabetes (n=108)

| | <i>b</i> | <i>p</i> | R ² |
|-----------------------------------|----------|----------|----------------|
| Age | .028 | .825 | .13 |
| Gender | -2.652 | .428 | |
| Depressive symptoms | -.015 | .966 | |
| Diabetes distress | -6.008 | .041 | |
| Diabetes Quality of life | .056 | .666 | |
| Diabetes distress*Quality of life | -.178 | .027 | |

Table 2. Summary of Hierarchical Regression Analysis Examining the Moderating Role Diabetes Distress in the Relationship between Quality of Life and Diabetes Self-Care in Adults with Type 2 Diabetes (n=188)

| | <i>b</i> | <i>p</i> | R ² |
|-----------------------------------|----------|----------|----------------|
| Age | .181 | .032 | .16 |
| Gender | -1.000 | .699 | |
| Depressive symptoms | -.033 | .908 | |
| Diabetes distress | -5.071 | .005 | |
| Diabetes quality of life | .055 | .625 | |
| Diabetes distress*Quality of life | -.115 | .058 | |

Future Directions

- Research should examine resources and supports that buffer the negative effects of diabetes distress on QOL and self-care.
- Longitudinal research with a more diverse sample is necessary.

DeWitt Jones II, OMS II
Email: dj643418@ohio.edu



This project is supported by the American Osteopathic Association Grant No. 1291708718.