

# Mental Health of Mothers of Children with Type One Diabetes

S. Mkhitryan<sup>1</sup>, M.Thompson<sup>2</sup>, A. Demirchyan<sup>1</sup> V. Khachadourian<sup>3</sup>

<sup>1</sup>School of Public Health, American University of Armenia, Yerevan, Armenia, <sup>2</sup>College of Health and Human Sciences, University of North Carolina at Charlotte, Charlotte, USA

<sup>3</sup>Fielding School of Public Health, University of California, Los Angeles, USA



## Background

The social, psychological, and economic burden of juvenile and adolescent diabetic patients on their primary caregivers may pose a serious threat to caregiver mental health.

For targeted effective and efficient psychosocial interventions, identifying the most at-risk groups is of great importance.

This study aimed to identify whether family caregivers (mothers) of children with type one diabetes have greater odds of having mental health problems (depression, anxiety and dignity) compared to those who have children with no chronic conditions.

## Methods

A retrospective cross-sectional study with group comparison design was conducted to answer the research questions.

190 participants from Yerevan city and Shirak province were recruited using the database of the Yeraz Charitable Foundation.

Ninety-five mothers of children with Type One diabetes were recruited for the exposed group and 95 mothers of children with no chronic conditions were recruited for the unexposed group from the same neighborhood as the exposed cases.

To assess the level of depression and anxiety, the Armenian modified version of the Center for Epidemiologic Studies Depression (CES-D) scale and the Anxiety Symptom Checklist 90 (SCL-90) were used.

Dignity was assessed by a tool developed at the Johns Hopkins University in the United States.

Contact info: Samvel Mkhitryan, MPH, samuelmxytaryan@gmail.com

## Results

The proportion of mothers in the exposed group reporting mental health problems (13.7%) was significantly higher compared that in the unexposed group (3.1%;  $p=0.009$ ).

Table 1. Socio-demographic and health characteristics

Characteristics	Exposed (N=95)	Unexposed (N=95)
Age, mean	38.6	36.3
Married, %	90.5	91
Education, %: School≤10 years	32.6	45.3
Professional/technical education	36.8	40.0
Institute/University	30.5	14.7
Wealth status, %: Poor	50.6	24.2
Average	32.6	31.6
Wealthy	16.8	44.2
Chronic conditions among mother, %		
≥2 Chronic conditions	36.0	16.0
1 Chronic condition	30.5	40.0
0 Chronic condition	33.7	44.2
Self-rated health, %: Very good	-	13.7
Good	74.7	70.5
Poor	25.3	15.8

The point prevalence of depressive symptoms in the exposed group was 37.9 % and was significantly higher compared to the unexposed group (14.0%,  $p=0.000$ ).

The point prevalence of anxiety symptoms was 50.0% in the exposed group and was significantly higher than in the unexposed group (20.0%,  $p=0.000$ ).

Table 2. Psychosocial indicators

Characteristic	Exposed (N=95)	Unexposed (N=95)	P-value
Depressive symptoms, %	37.9	14.7	0.000
Anxiety, %	50.5	20.0	0.000
Dignity, %	49.5	51.6	0.772
Social Support (Mean)	16.1	18.4	0.003

Dignity levels were similar “among” the two groups (49.5% exposed versus 51.0% unexposed,  $p=0.773$ ). On average, mothers in unexposed group reported receiving statistically significantly more social support compared to mothers in the exposed group ( $p<0.003$ ).

After adjusting for confounders, mothers of diabetic children had 4.62 times greater odds of having depressive symptoms (95% CI: 1.19 - 17.82) and 2.84 times greater odds of having anxiety symptoms (95% CI: 1.04 – 7.76), compared to mothers of children with no chronic conditions.

Table 3. Odds Ratios adjusted for confounders

Characteristic	Adjusted OR	P-value	95% CI
Depressive symptoms	4.62	0.026	1.19-17.82
Anxiety	2.84	0.041	1.04 – 7.76

Additionally, the following factors were found to be associated with the outcomes of depression/anxiety: Number of children, mother’s education level, families' socio-economic status, chronic conditions of mothers, received social support, unexpected death of a significant one and having a first line relative diagnosed with depression.

## Conclusion

Having a child with type one diabetes is associated with greater odds of having mental health problems.

The findings of this study provide evidence for policy makers to support the establishment and delivery of psychosocial support to mothers of children with type one diabetes. Further qualitative research could reveal the perceptions and experiences of parents and their psychosocial needs to help better formulate targeted psychosocial intervention.

## Acknowledgment

We would like to express our deepest gratitude to “Yeraz” charitable foundation for their invaluable support throughout the conduct of the research. We are also thankful to Dr. D. Lenis for statistical advice.