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Beyond Blood Sugar: Psychosocial Predictors of ED Visits in Youth with T1D and Elevated HbA1cs

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Abstract

Introduction:

While youth with elevated HbA1cs are at higher risk of experiencing acute complications, there is less understanding of which social factors are associated with the highest need for emergency department (ED) care. We aimed to identify psychosocial correlates and predictors of ED visits in a diverse population of youth with type 1 diabetes (T1D) with elevated HbA1cs to inform future screening and intervention efforts.

Methods:

Youth (n=146) from five academic medical centers were recruited if they 1) were between ages 12-17, 2) had been diagnosed with T1D for ≥ 1 year prior, and 3) had an HbA1c $\geq 10\%$ in the past year. Youth and their caregivers completed self- and other-report surveys, including measures of diabetes family conflict (Diabetes Family Conflict Scale), adverse childhood events (ACE), and caregiver health literacy. Chart review data included HbA1c prior to enrollment and number of ED visits 12 months prior and 6 months following study enrollment.

Results:

Mean age of participants = 14.5 years (SD=1.6), average HbA1c = 11.1% (SD =1.4). ED visit presence was significantly ($p < .05$) correlated with higher HbA1c ($r = .20$), diabetes family conflict ($r = .20$), increased dyad exposure to ACEs ($r = .19$), and lower caregiver health

literacy ($r=-.17$). Youth on Medicaid (61.3%) were more likely ($p=.03$) to experience an ED visit. When including these factors in a binary logistic regression, higher dyad ACEs were a significant predictor of ED visits (odds ratio =1.20, $p<.01$).

Conclusion:

Screening for child and parent reported ACEs and employing interventions that can mitigate the impacts of these experiences may help to decrease ED visits for youth with T1D. Identifying factors correlated with the presence of an ED visit can inform mechanisms of change within diabetes-specific youth programming.