



Research Week 2020

Novel Interventions in Children's Healthcare (NICH): Examining Access to Diabetes Technology Among Socially Vulnerable Youth with Type 1 Diabetes

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Keywords

behavioral health intervention; health outcomes; pediatric; type 1 diabetes

Abstract

Objective

Recent advancements in technology (insulin pumps, continuous glucose monitors (CGMs)) for youth with type 1 diabetes (T1D) hold promise for better outcomes, but multiple barriers to access exist. Novel Interventions in Children's Healthcare (NICH), an intensive behavioral health program, was designed to improve care for vulnerable youth and is associated with improved health for youth with T1D, but less is known regarding technology access for these youth. This study aims to 1) identify prevalence of technology use prior to and following NICH initiation and 2) examine whether technology access moderated NICH youth outcomes.

Methods

Youth with T1D served by NICH (n=69) were included. EHR review included T1D complications (DKA), HbA1c values, and presence of T1D technology one year prior and two years following initiation of NICH services. Youth mean age was 14.2 years (SD=3.5); 57% were female; 78% were non-Hispanic white.

Results

5.8% of youth had access to some form of technology prior to NICH (pump=5.8%; CGM=0%) and 14.5% had access to some form of technology 2 years post NICH initiation (pump=11.6%; CGM=10.1%). Youth were significantly more likely to gain access to CGMs ($p<.01$) and general T1D technology ($p<.05$) while in NICH. While there were no significant differences in health outcomes for those who gained technology while in NICH compared to those who did not, youth who already had technology prior to NICH had significantly fewer days admitted prior to NICH (M=1.0 days; SD=2.0) compared to those without access (M=5.8 days; SD=8.3).

Conclusion

With clinic level rates of tech access hovering around 50% for CGMs and 40% for pumps, this study demonstrates that 1) youth referred to NICH experience substantial barriers to accessing T1D technology, 2) NICH participation is associated with increased access to T1D technology for socially vulnerable youth, and 3) despite program involvement, technology access inequities persist.