

Introduction

Continuous subcutaneous insulin infusion pumps have been shown to help maintain glucose levels as close as possible to normal range in diabetic pediatric patients, with the additional benefit of improving quality of life and minimizing the risk of severe hypoglycemic episodes.¹ Unfortunately, studies have also shown disparity in the use of insulin pumps within the first year of diabetes diagnosis, based on patient race and socioeconomic status.² The studies evaluating this disparity have primarily been performed at single institutions and small numbers of dedicated pediatric diabetes facilities.

Methods

We used TriNetX, a global federated health research network providing access to electronic medical records (diagnoses, procedures, medications, laboratory values, genomic information) from approximately 212 Million patients in 92 large Healthcare Organizations. We created 2 cohorts of patients age 18 or younger: one with only African-American patients, and the other with all ethnicities except African-American. Both cohorts were matched for age and gender, resulting in 4,646 patients each. We then searched for the outcome of HCPCS code E0784 within the first year of diagnosis, which corresponds to “external ambulatory infusion pump, insulin”.

Results

In this study of 9,292 patients, African-American patients received insulin pumps 26.5% as often as patients of other races ($p < 0.0001$, CI 0.191, 0.367).

Cohort	Patients	Pts. With Pumps	P value
AA	4646	45	<0.0001
Others	4646	170	

Figure 1: Prescribing patterns of insulin pumps

Conclusions

We found significant disparity in the rate of insulin infusion pump use based on race. This is the largest of such studies to evaluate this, and the presence of this disparity is consistent with smaller studies that have been performed prior. Much work remains to ensure that all pediatric diabetic patients who are candidates for insulin pumps receive them.

Bibliography

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