EMR-Based Depression Screening for Adolescent Type 1 Diabetes Patients: A Quality Improvement Project

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Background

- Adolescent diabetes patients face many challenges of disease control
- There is an association between poor glycemic control and depression in this population
  - Diabetic adolescents are reported to experience higher rates of depression than their healthy peers (30% versus 10-20%).
- The American Diabetes Association (ADA) recommends annual depression screening for all diabetic patients
  - Implementation and follow-up is often logistically difficult.
- This quality improvement (QI) project implemented an electronic medical record (EMR)-based depressive symptom screen in Type 1 Diabetes Mellitus (T1DM) adolescents seen in an outpatient specialty clinic.

Methods

- **Setting**
  - Outpatient pediatric endocrinology office
  - Team members: 1 MD and 1 PNP, 2 CMAs, 1 front desk staff
- **Project Design**
  - Quality Improvement Study/PDSA design
- **Sampling**
  - Convenience sampling
  - Inclusion criteria: T1DM, ages 14-18 years, clinic visit during implementation time frame (May 2019)
  - Exclusion criteria: <14 years or >18 years, T2DM
  - Tool: EMR-based version of the Patient Health Questionnaire-9 (PHQ-9)

Outcomes

- Feasible implementation
- Clinic screening rate improved from 0% to 77%
- Ten percent (10%) with positive depression symptom screen.
- Twenty percent (20%) referral rate for mental health evaluation.
- Ten percent (10%) with positive suicidal ideation screen.
- No patients endorsed active plans
- Somatic symptoms including fatigue and difficulty sleeping present in 38-48%

Implications for Practice

- It is widely recognized that youth with T1DM and comorbid depression are at higher risk for adverse outcomes.
- Routine screening for depressive symptoms with appropriate follow-up is currently recommended by the ADA.
- The results of this QI project demonstrate the practicality and value of using EMR-based screening tools and add to existing knowledge of implementing screens in a specialty setting.
- The results of this project also offer insights that will enable the team to continue QI measures into the future and improve the quality of care for our patient population.

Objectives

1. To increase clinic-specific rates of depression screening utilizing a validated tool within the EMR.
2. To identify the occurrence of depressive symptoms in this population.
3. To describe the frequency of referrals to mental health providers.

References

Background
Adolescent diabetes patients face many challenges to disease control during a life stage characterized by rapid physical, cognitive, and emotional changes. There is an association between poor glycemic control and depression in this population, and diabetic adolescents are reported to experience higher rates of depression than their healthy peers (30% versus 10-20%). The American Diabetes Association recommends annual depression screening for all diabetic patients, yet providers often find implementation and follow-up logistically difficult. This quality improvement (QI) project implemented an electronic medical record (EMR)-based depressive symptom screen in Type 1 Diabetes Mellitus (T1DM) adolescents seen in an outpatient specialty clinic.

Objectives
The objectives for this project were: 1. To increase clinic-specific rates of depression screening utilizing a validated tool within the EMR. 2. To identify the occurrence of depressive symptoms in this population. 3. To describe the frequency of referrals to mental health providers.

Methods
This project used the Plan-Do-Study-Act format as a guide for quality improvement. The Patient Health Questionnaire-9 (PHQ-9) is a nine-item, reliable and valid screen for depressive symptoms that was provided for all consecutive patients meeting inclusion criteria (14-18 years old, T1DM diagnosis) presenting to the project site in May 2019. Patients completed the tool in the clinic EMR, and project team members incorporated the scored results into the clinic note. The provider determined if referral was necessary according to established protocol that was developed by the team based on current evidence, guidelines, and clinic flow.

Outcomes
The clinic screening rate improved during this project, going from an initial rate of 0% to 77% at project end. Ten percent of all patients had a positive depression symptom screen, and twenty percent were referred for mental health evaluation. Ten percent of screened patients indicated thoughts of suicidal ideation but did not endorse active plans on further inquiry. A significant portion of patients (38-48%) indicated somatic symptoms including fatigue and difficulty sleeping.

Implications for Practice
It is widely recognized that youth with T1DM and comorbid depression are at higher risk for adverse outcomes. Routine screening for depressive symptoms with appropriate follow-up is currently recommended by the ADA. The results of this QI project demonstrate the practicality and value of using EMR-based screening tools and add to existing knowledge of implementing screens in a specialty setting. The results of this project also offer insights that will enable the team to continue QI measures into the future and improve the quality of care for our patient population.