Diabetes and Depression: Determining the Coexistence in Primary Care

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Introduction

• Overview
  • Background, Methods, Results, Discussion, Recommendations

• Matthew Walker’s patient population
  • Largely African-American and Hispanic
  • What illnesses disproportionately affect these populations?
  • What are the risk factors associated with diabetes?
  • Barriers to effective treatment and management of disease
Background

- Which ethnic groups are affected most by diabetes and depression?
  - 9% of African-Americans suffer with depression
  - 11.4% of Hispanics suffer with this disorder
  - African-Americans and Hispanics are also disproportionately affected by diabetes

- Stigma associated with mental illness

- Affects people who do not have insurance and who are between the ages of 45-64
  - Some estimates show that diabetics are 2x more likely to suffer from depression.
  - Largely untreated

- How can we better address depression?
Methodology

- Distributed the Patient Health Questionnaire-9 (PHQ-9) to both diabetic and non-diabetic patients.
  - Administered questionnaires from **June 12th through July 10th**. Follow-up interviews were conducted one month from each individual’s initial interview.
  - Questions asked about overall health and general wellbeing
  - Asked about depressive symptoms, including suicide attempts within the past two weeks

- Educational information administered to diabetic patients
- Blood pressure, weight, blood glucose readings, and number of comorbidities extracted from patients’ charts.
- Follow-up within a month to determine if PHQ scores significantly differ after education about diet and exercise.
Results

• Male non-diabetics had significantly higher PHQ scores than female non-diabetics ($p=0.0045$).

• Diabetics’ average PHQ score was significantly different from non-diabetics’ at one-month follow-up ($p=0.03$).
Results

- Non-diabetic males had significantly higher PHQ scores than diabetic males (p=0.038).

- Trend toward significance between PHQ scores non-diabetics with triglyceride levels greater than 150mg/dL and non-diabetics with triglyceride levels lower than 150mg/dL (p=0.097).

- Trend toward significance between the PHQ scores of overweight non-diabetics and obese non-diabetic patients (p=0.096).
Discussion

• As expected, the number of comorbidities did significantly differ between groups, as well as the average fasting blood glucose levels.

• Interesting that non-diabetics had a higher average PHQ in almost every comparison.
  • This could be attributed to the adult medicine physicians being able to properly treat and assist in managing the diabetic patients’ care, therefore effectively managing their depressive symptoms.
  • Research should be continued in order to monitor depressive states/symptoms of the entire patient population, including non-diabetics.
Recommendations

• Begin administering the PHQ survey at all Matthew Walker sites. Though it should not be used in lieu of a diagnostic interview, this survey will help guide the physicians’ interview and assist them as they seek to provide more comprehensive care to their patient populations.

• Provide education and treatment
  • Treating depression and other mental illnesses can help patients control their glycemic index. Literature shows that treating diabetes can facilitate mental and cognitive stability.
  • Education is key to properly managing any disease. Thus, properly educating patients will increase their awareness and possibly their willingness to better manage their illness(es).

• Follow-up with patients to ensure they maintain good mental and physical health.
Conclusion

• Screening for mental health disorders is necessary to provide quality care.

• Administering the PHQ survey could help reduce stigma.

• Administer the questionnaire to all patients regardless of age, gender, or illness because mental and physical health influence each other.

• Encourage providers to advocate for improving and maintaining mental health.

• Establish exercise classes to help both diabetic and non-diabetic patients reduce depressive symptoms without the emotional and financial burdens of medications.
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