

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

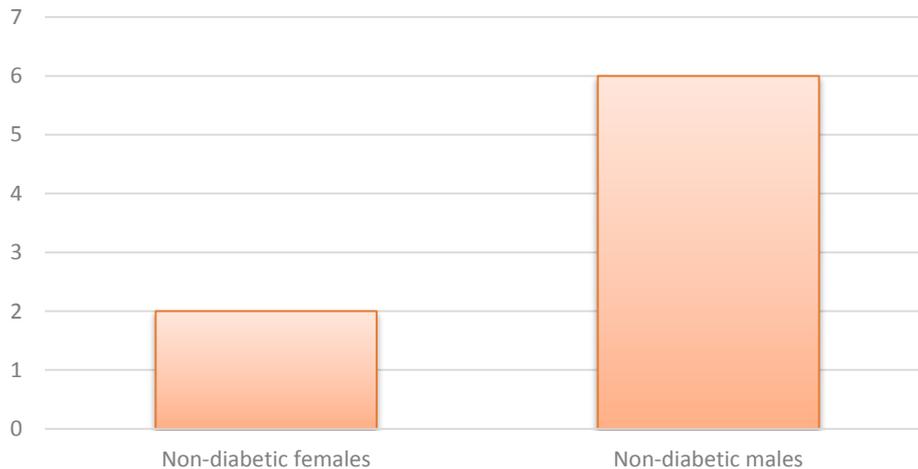
- Distributed the Patient Health Questionnaire-9 (PHQ-9) to both diabetic and non-diabetic patients.
 - Administered questionnaires from **June 12th through July 10th**. Follow-up interviews were conducted one month from each individual's initial interview.
 - Questions asked about overall health and 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.



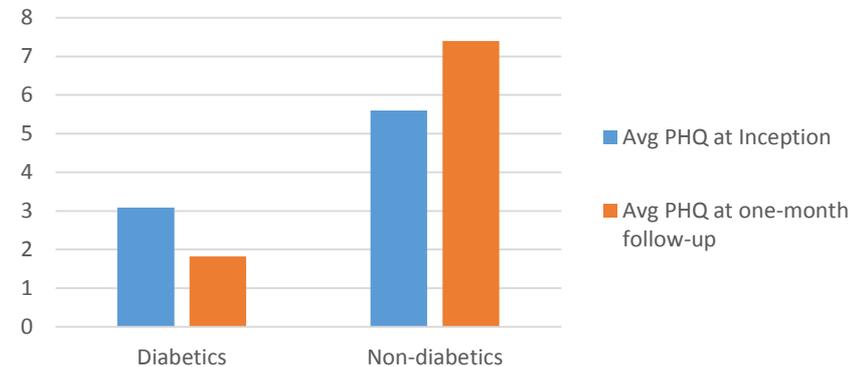
Results

- 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 ($p=0.03$).

Average PHQ score of non-diabetics



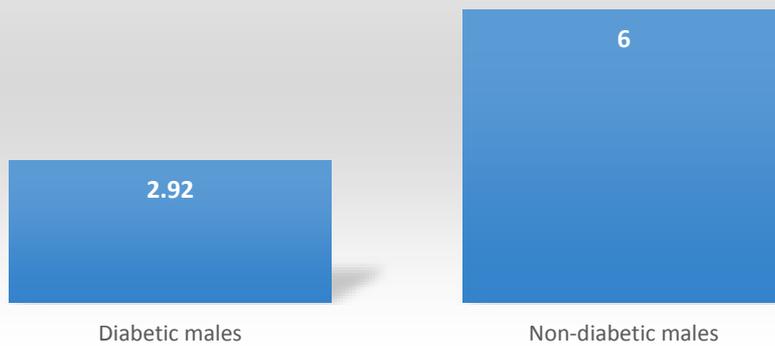
Average PHQ Score at Study's Inception and at One-month Follow-up



Results

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

Average PHQ score of diabetic and non-diabetic males



- 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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