Associations Between Comorbid Disease Outcomes Among Patients with Depression in a Student Run Free Clinic

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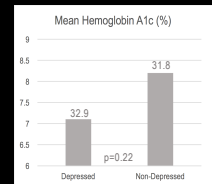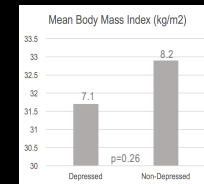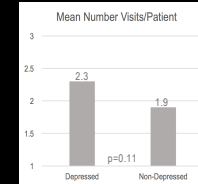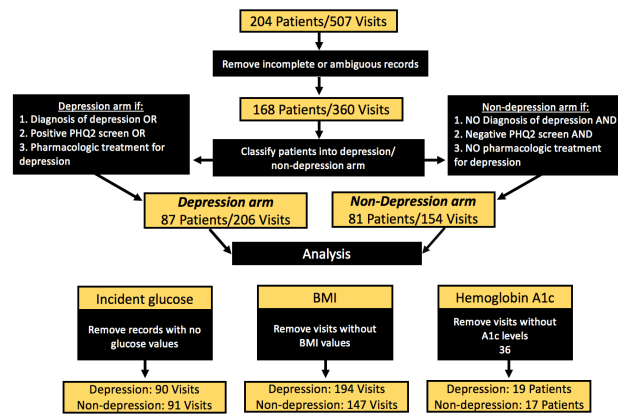Julie Duncan, MPH, M3; Gabrielle Hayden; Margaret Roderick; Sarah Striegel

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Background

Research demonstrates a correlation between diagnosed depression and increased markers of chronic medical illness, including poorer glycemic control, increased risk for cardiovascular events, and obesity. Moreover, medically underserved patient populations are especially at high risk for poor health outcomes due to chronic illness, which has profound implications for both individual patients as well as the healthcare system. However, very little research has been done on chronic health outcomes among underserved mental health patients treated in integrated behavioral health/primary medical care settings. MedZou, a student-run, free medical clinic provides integrated health care services to uninsured, low-income adults in Mid-Missouri, and provides a potentially ideal setting for this research. We wanted to compare health outcomes between patients identified with depression and those without depression that were treated at MedZou.

Methods

A retrospective chart review was completed on all patients seen at the MedZou clinic from May 1, 2014 to June 1, 2015. Data from 204 unique patients and 507 clinic visits was extracted, including demographics, medications, past and current diagnosis and treatment, vital signs, mental health screening, and physiological health markers (incident glucose level, height/weight, and hemoglobin A1c) for each visit during the 13 month period. Records with incomplete or ambiguous data were excluded from analysis. Patients were included in the depression arm of the study if they had any of the following criteria: (1) diagnosis of depression, (2) positive PHQ-2 screen, or (3) pharmacologic treatment for depression (not prescribed for headache or sleep). Patients were included in the non-depression arm of the study if they did not meet any of the above criteria. 87 patients (206 visits) were included in the "depression" arm of the study while 81 patients (154 visits) were classified into the "non-depression" arm. Data measures of mean incident glucose, incident glucose above 200mg/dL, body mass index, and mean hemoglobin A1c were compared between the 2 groups. Mean number of visits per patient in each group were also analyzed. Data was entered using RedCap software and analyzed with Microsoft Excel and SPSS using the two-sample t-test and N-1 two proportion test.

Process Flowchart

Results

Our analysis showed a statistically significant relationship between depression and lower incident glucose measurement (p=0.007). We also found a statistically significant lower proportion of depressed patients with incident glucose >200mg/dL compared to non-depressed patients (p=0.006). While no other identified markers of health status resulted in statistically significant findings, our results showed both reduced BMI and reduced levels of hemoglobin A1c among patients identified with depression compared to those without. Patients with depression had a higher average number of visits (2.3) per patient compared to patients without depression (1.9), although this difference was not found to be statistically significant.
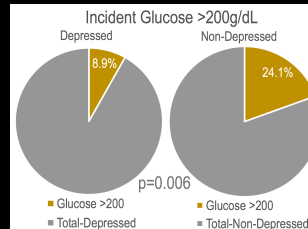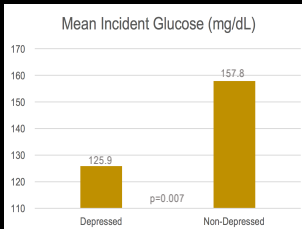

Discussion

In contrast to previously published findings, our results showed improved glycemic control and lower proportions of incidentally diagnosed diabetes among patients with depression. Although the findings for other outcome measures were not statistically significant, they trended in a similar direction with depressed patients having lower mean body mass index and hemoglobin A1c levels. While these findings could be due to unidentified confounding factors, there is also a notable trend of increased number of visits for individuals with incident depression diagnosis. This may indicate an increased frequency of care provided to patients with depression at MedZou, which may have contributed to these outcomes. However, these findings may also be attributable to a lack of statistical power given the size of our sample, or reflect other unidentified factors that are positively affecting health outcomes in this population. Further research is recommended to expound on and characterize these findings. Additionally, it is clear that improving capture of both mental illness diagnoses in a patient visit as well as systematic monitoring of markers of chronic illness would improve data quality for future studies of correlations between mental illness and health outcomes.

References

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