

Diabetes, Hypertension, and Statin Medication Adherence and Depression

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Patients with depression are less likely to be adherent to diabetes, hypertension & statin medications ranging from 2.1% to 11.9%

OBJECTIVES

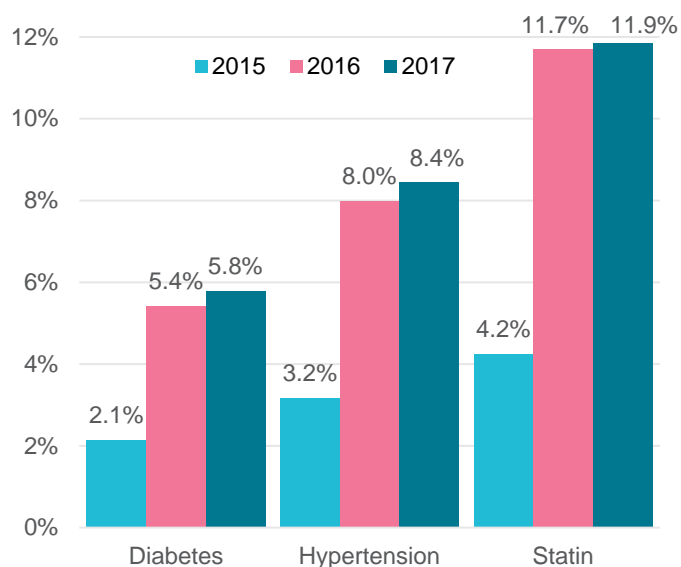
- Several survey studies found that patients with depression had a high risk of being non-adherent to medication therapies for other chronic conditions.^{1,2,3}
- Another research suggested that antidepressants had positive impact on glycemic control for diabetes patients possibly related to improved medication adherence after relief of depressive symptoms.⁴
- We used real-world medical and pharmacy claims data to examine the association of depression with adherence to three therapeutic classes (3TC): oral diabetes, hypertension, and statin medications.

METHODS

- **Study Design:** This retrospective cohort study used the de-identified IBM MarketScan® database.
- **Study Population:** Adults 18-64 years old, who initiated their therapy in 2015, continued taking the 3TC medications, and continuously enrolled in 2016 and 2017 were included. The test group patients started anti-depression medications or had a depression diagnosis in 2015, while the control group did not. Patients with a new diagnosis of depression after 2015 were excluded.
- **Study Period:** January 2015 to December 2017.
- **Outcome Measures:** Medication adherence for the 3TCs were measured using proportion of days covered (PDC). The percentage of adherent patients ($PDC \geq 0.8$) were compared between test and control groups by calendar year. The adjusted odds ratios (OR) of being non-adherent ($PDC < 0.8$) were calculated for 2016 and 2017 after controlling for age, gender, employee classification and status, and geographic location.
- **Statistical Analyses:** Chi-square tests were used to evaluate statistical significance of the group differences. The 95% confidence intervals were calculated for the odds ratios.

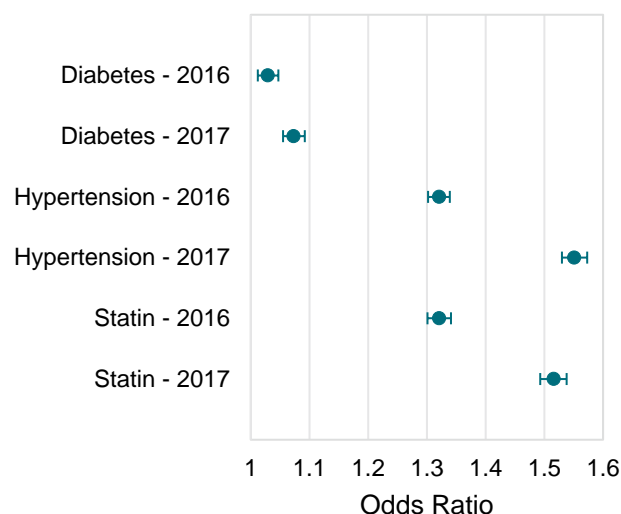
RESULTS

Figure 1: Difference in Percent of Adherent Patients



- Patients diagnosed with depression or filling anti-depression medications (test group) had significantly fewer adherent patients than the control group. The percent patients with PDC ≥ 0.8 was:
 - 2.1% lower in 2015, 5.4% in 2016 and 5.8% in 2017 for diabetes.
 - 3.2% lower in 2015, 8.0% in 2016 and 8.4% in 2017 for hypertension.
 - 4.2% lower in 2015, 11.7% in 2016 and 11.9% in 2017 for statin.

Figure 2: Odds of Non-Adherent - Test vs. Control



- The test group patients with depression had significantly greater odds of being non-adherent to their established therapies than the control group in 2016: diabetes OR = 1.03 (95% CI 1.01-1.05); hypertension OR=1.32 (95% CI 1.30-1.34); and statin OR=1.32 (95% CI 1.30-1.34).
- The odds of being non-adherent became more substantial in 2017: diabetes OR=1.07 (95% CI 1.06-1.09); hypertension OR=1.55 (95% CI 1.53-1.57); and statin OR=1.52 (95% CI 1.49-1.54).

CONCLUSIONS

- The presence of a depression indicated by a diagnosis or fills of anti-depression medications has a negative impact on the medication adherence of patients being treated for three chronic conditions: diabetes, and especially for high cholesterol (statin) and hypertension.
- To achieve better health outcomes, healthcare providers including clinics and pharmacies should manage depression in conjunction with other chronic conditions.

References:

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Contributing Authors:

Ying Mu, MS; Liang Feng, PhD; Michael Taitel, PhD
Walgreens, Deerfield, IL

All authors are employees of Walgreen Co.
Walgreens Center for Health & Wellbeing Research www.walgreens.com/research
For more information on this poster, please contact: research@walgreens.com