



# Comparison of Suicidal Ideation or Personal History of Self-Harm Among Patients with Use of Rexulti and Other Atypical Antipsychotics

Onur Baser, MA, MS, PhD<sup>1</sup>; Nehir Yapar<sup>2</sup>; Erdem Baser, MS, PhD<sup>3</sup>; Munira Mohamed, MPH<sup>2</sup>; Alexandra Passarelli, MPH<sup>2</sup>; Shuangrui Chen, MS<sup>2</sup>; Yuanqing Lu, MS<sup>2</sup>; Katarzyna Rodchenko, MA, MPH<sup>2</sup>  
<sup>1</sup>Graduate School of Public Health, City University of New York (CUNY), New York, NY; <sup>2</sup>Columbia Data Analytics, New York, NY; <sup>3</sup>Mergen Medical Research, Bilkent Cyberpark, Ankara, Turkey

## BACKGROUND

Antipsychotic medications play a crucial role in managing various psychiatric disorders, but their specific impact on suicidal ideation and self-harm behaviors remains a critical area of investigation.

Major depressive disorder (MDD) is one the most prevalent mental health conditions worldwide<sup>1,2</sup> and is characterized by a persistent, intense feeling of sadness or a lack of interest in external stimuli, which impairs daily functioning.<sup>1</sup> Symptoms include sleep disturbances, appetite changes, low energy, poor concentration, agitation, feelings of worthlessness, and suicidal thoughts.<sup>1,3</sup>

In 2021, 8.3% of US adults (~27.6 million people) experienced a major depressive episode.<sup>1</sup> Over the past decade, MDD prevalence has risen, from 6.6% in 2011 to 8.3% in 2021.<sup>1,4</sup>

## OBJECTIVES

This study compared the prevalence of suicidal ideation or personal history of self-harm among patients treated with Rexulti (brexpiprazole) versus other oral atypical antipsychotics (AAPs).

## METHODS

A retrospective analysis was conducted using real-world data from the Kythera Labs commercial database population from January 2020 - December 2022.

### Inclusion criteria

- a) ≥1 pharmacy claim for an oral AAP during the identification period
- b) Continuous health plan enrollment with medical and pharmacy benefits for 24 months pre- and 12 months post-index date
- c) ≥2 diagnosis claims for MDD ≥30 days apart pre-index date
- d) ≥1 pharmacy claim for an antidepressant after the first MDD diagnosis date
- e) ≥30 days co-prescription of an antidepressant and an AAP
- f) 90-day washout period for any AAP pre-index date

### Exclusion criteria

- a) Diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder
- b) New AAP treatment initiation within 12 months post-index date
- c) Post-traumatic stress disorder claim(s) during the study period

To assess and compare the impact of brexpiprazole vs other oral AAPs on effects on suicidal ideation and self-harm among individuals diagnosed with MDD, patients were classified into 2 cohorts:

- **Brexpiprazole Cohort:** Augmented treatment with brexpiprazole
- **Any Oral AAP Cohort:** Augmented treatment with other oral AAPs

Propensity score matching was employed for risk adjustment.

## RESULTS

The final sample included 7,195 patients with brexpiprazole use and 84,538 patients with other oral AAP use.

**Table 1. Descriptive Characteristics of Patients with Major Depressive Disorder and Treatment Augmentation with Brexpiprazole vs Other Oral Atypical Antipsychotics**

	Kythera Commercial Population				
	Brexpiprazole Cohort (N = 7,195)		Oral AAP Cohort (N = 84,538)		P value
	N/Mean	%/SD	N/Mean	%/SD	
Age Groups (years)	46.96	14.72	49.61	17.7	<.0001
18 - 34	1,638	22.77%	20,009	23.67%	.0834
35 - 54	3,070	42.67%	28,743	34.00%	<.0001
55 - 64	1,715	23.84%	18,779	22.21%	.0015
65+	772	10.73%	17,007	20.12%	<.0001
Sex					
Male	1,820	25.30%	26,736	31.63%	<.0001
Female	5,375	74.70%	57,802	68.37%	<.0001
Region					
Midwest	1,944	27.02%	21,829	25.82%	.0261
Northeast	1,058	14.70%	13,435	15.89%	.008
South	3,003	41.74%	31,906	37.74%	<.0001
West	895	12.44%	14,627	17.30%	<.0001
Comorbidity Scores					
Charlson Comorbidity Index Score	0.82	1.32	1.3	1.8	<.0001

AAP: atypical antipsychotics; SD: standard deviation.

**Table 2. Prevalence of Suicidal Ideation and History of Self-harm among Patients with Major Depressive Disorder Treated with Brexpiprazole vs Other Oral Atypical Antipsychotics (Unmatched)**

	Kythera Labs Commercial Population				
	Brexpiprazole Cohort (N = 7,195)		Oral AAP Cohort (N = 84,538)		P value
	N/Mean	%/SD	N/Mean	%/SD	
(1) Suicidal Ideation	77	1.07%	1742	2.06%	<.0001
(2) History of self-harm	32	0.44%	703	0.83%	0.0004
Any of (1) or (2)	98	1.36%	2170	2.57%	<.0001

AAP: atypical antipsychotics; SD: standard deviation.

Patients were matched one-to-one, adjusting for index medication year, age, comorbidity index scores, and comorbidities.

## RESULTS (cont'd)

Suicidal ideation occurred in 77 patients (1.07%) treated with brexpiprazole, compared to 129 patients (1.79%) receiving other oral AAPs (p=.0099; **Table 3**).

**Table 3. Risk-adjusted Prevalence of Suicidal Ideation and History of Self-harm among Patients Treated with Brexpiprazole vs Other Oral Atypical Antipsychotics**

	Kythera Labs Commercial Population				
	Brexpiprazole Cohort (N = 7,195)		Oral AAP Cohort (N = 7,195)		P value
	N/Mean	%/SD	N/Mean	%/SD	
(1) Suicidal Ideation	77	1.07%	129	1.79%	0.0099
(2) History of self-harm	32	0.44%	71	0.99%	0.0064
Any of (1) or (2)	98	1.36%	175	2.43%	0.0009

AAP: atypical antipsychotics; SD: standard deviation.

## CONCLUSION

The results suggests that among patients with MDD, brexpiprazole use was associated with a significantly lower prevalence of suicidal ideation and self-harm compared to other AAP use.

Extensive data from the Kythera Labs database, encompassing claims from 238 million patients, highlight a potential benefit of brexpiprazole in reducing these critical psychiatric risks.

While further research is needed to explore underlying mechanisms and confirm these findings in diverse populations, these results provide valuable insights for clinicians when considering antipsychotic treatment options for patients with MDD.

## REFERENCES

- 1 National Institute of Mental Health. Major Depression.

