Relationship Between Patient Characteristics, Patterns of Treatment, and Medication Adherence among Individuals with Major Depressive Disorder: Implications of Delayed Initiation of Psychotherapy

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HEALTH ANALYTICS
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BACKGROUND

- Major depressive disorder (MDD) is a debilitating disorder associated with elevated health care costs, increased morbidity and mortality, and diminished quality of life.[1,2]
- The simultaneous use of antidepressant (ADT) medication and psychotherapy is guideline-aligned care for individuals with MDD.[3]
- A national shortage of psychotherapists translates into challenges with access, contributing to a substantial unmet need for psychotherapy.[4]
- Given the high rate of inadequate response to ADT alone, there is a need to understand issues related to psychotherapy initiation and implications for treatment.

STUDY OBJECTIVE

To better understand treatment choice and outcomes for MDD, specifically the implications of delayed psychotherapy initiation.

METHODOLOGY

Study Design: Retrospective comparative cohort study.

Study Periods:

- Case finding period: January 1, 2016-February 28, 2019.
- Index: Defined as the initiation of an eligible ADT pharmacotherapy treatment following diagnosis of MDD.
- Baseline: 12-months period prior to index.
- Follow Up: 24-month period following index.

Data Source:

- Clarivate's Real-World Data repository.[5]

Identification and Selection of Study Participants:

Inclusion criteria:

- 18-55 years of age at beginning of baseline.
- Diagnosed with MDD (2+ outpatient claims separated by 30 days or 1 inpatient claim) during the baseline period.
- Initiation of eligible ADT pharmacotherapy on or after the initial MDD diagnosis date including SSRIs, SNRIs, alpha-2 receptor antagonists, MAOIs, serotonin modulators, tricyclics, tetracyclics, or bupropion.
- At least one medical or pharmacy claim in each 3-month period starting from baseline through the end of follow up.

Exclusion criteria:

- Diagnosis of psychosis, bipolar disorder, schizophrenia, or schizoaffective disorder, defined by two or more outpatient claims, separated by 30 days, at any time during the study period.
- Diagnosis of MDD with psychotic features, defined by two or more outpatient claims, separated by 30 days, at any time during the study period.

The Adjunctive Psychotherapy cohort added psychotherapy (CPT 90832, 90834, 90837, 90839, 90840, 90845, 90847, 9049, 90853, or 96152) during follow up. Pharmacotherapy Only cohort did not add psychotherapy.

Outcomes: 1) Time to treatment discontinuation, defined as the number of days between index treatment date and the first 60-day gap in medication; 2) episodes of care, defined by treatment initiation and subsequent discontinuation; and 3) time to initiation of psychotherapy.

Analysis: Time to psychotherapy initiation was associated with time to ADT discontinuation and tested using a Cox proportional hazards regression.

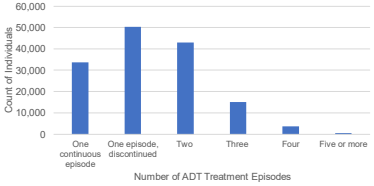
RESULTS

Table 1. Distribution of Select Demographic and Comorbidity Characteristics

	Adjunctive Psychotherapy n= 28,937		Pharmacotherapy Only n= 117,149		
	N(Mean)	%(SD)	N(Mean)	%(SD)	*p*-value
Gender					n.s.
Female	21,385	73.9%	86,442	73.8%	
Age (Mean, SD)*	(40.3)	(10.7)	(42.4)	(10.1)	<0.05
Insurance					<0.05
Commercial	10,061	34.8%	46,688	39.9%	
Medicaid	17,221	59.5%	60,890	52.0%	
Medicare	1,538	5.3%	8,853	7.6%	
Other	116	0.4%	674	0.6%	
Charlson Comorbidity Index	(1.17)	(1.85)	(1.12)	(1.88)	<0.05
Psychiatric Comorbidities					
Anxiety	14,341	49.6%	40,016	34.2%	<0.05
Substance use disorders	10,770	37.2%	33,475	28.6%	<0.05
Sleep-wake disorders	8,772	30.3%	29,051	24.8%	<0.05
PTSD	4,696	16.2%	5,873	5.0%	<0.05
Alcohol use disorder	3,566	12.3%	7,054	6.0%	<0.05
Adjustment disorders	3,444	11.9%	3,399	2.9%	<0.05
Index Rx Class					<0.05
SSRI	15,102	52.2%	60,313	51.5%	
SNRI	4,884	16.9%	20,852	17.8%	
Bupropion	3,310	11.4%	14,412	12.3%	
Serotonin modulators	2,734	9.4%	10,127	8.6%	
Tricyclics and tetracyclics	1,887	6.5%	8,178	7.0%	
Alpha-2 receptor antagonists	1,008	3.5%	3,212	2.7%	
MAOIs	12	0.0%	55	0.0%	
Index Prescriber					<0.05
Primary care	9,946	34.4%	50,242	42.9%	
Psychiatry	6,502	22.5%	18,476	15.8%	
Other	12,488	43.2%	48,431	41.3%	

- Adjunctive Psychotherapy cohort was younger (40.3 vs 42.4 years) and more likely to be on Medicaid (59.5% vs 52.0%).
- Individuals in the Adjunctive Psychotherapy cohort had higher Charlson score and a higher prevalence of psychiatric comorbidities including anxiety (49.6% vs. 34.2%), substance use disorder (37.2% vs. 28.6%), sleep-wake disorders (30.3% vs 24.8%), and PTSD (16.2% vs. 5.0%).
- Among the total population, SSRIs were the most common index ADT followed by SNRIs and bupropion.
- Adjunctive Psychotherapy cohort was more likely to receive the index ADT from a psychiatrist (22.5% vs. 15.8%) and less likely to receive it from a primary care provider (34.4% vs. 42.9%).

Figure 1. Episodes of Care in the 24-month Follow Up Period for the Total Population (N = 146,086)



- 22.6% of individuals had one continuous episode of care.
- 35.3% had a single episode of care that was discontinued.
- 42.1% had two more episodes of care.

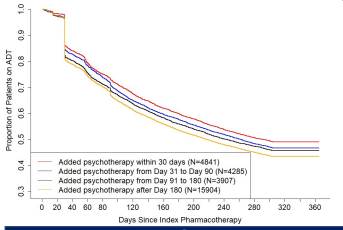
Table 2: Cox Proportional Hazards Model Measuring Time to ADT Discontinuation

Variables*	Hazards Ratio	95 % CI Lower bound	95 % CI Upper bound	*p*-value
Time to initiating psychotherapy (days)				
0-30	0.87	0.84	0.91	<0.05
31-90	0.92	0.88	0.96	<0.05
91-180	0.96	0.92	1.00	n.s.
>180 (ref)				
Age				
18-25	1.28	1.21	1.35	<0.05
26-30	1.19	1.13	1.26	<0.05
31-35	1.15	1.09	1.21	<0.05
36-40	1.06	1.00	1.11	<0.05
41-45	1.03	0.98	1.08	n.s.
46-50	1.01	0.97	1.06	n.s.
51-55 (ref)				
Insurance				
Commercial (ref)				
Medicaid	1.19	1.15	1.23	<0.05
Other	1.11	1.04	1.18	<0.05
Charlson Comorbidity	1.02	1.01	1.02	<0.05
Psychiatric Comorbidity				
Substance use disorders	1.20	1.16	1.24	<0.05
PTSD	1.07	1.03	1.11	<0.05
Alcohol use disorder	1.23	1.18	1.29	<0.05
Index Rx Class (ref=SSRI)				
SNRI	1.10	1.06	1.15	<0.05
Bupropion	1.10	1.04	1.15	<0.05
Serotonin modulators	1.32	1.26	1.39	<0.05
Tricyclics and tetracyclics	1.55	1.47	1.64	<0.05
Alpha-2 receptor antagonists	1.30	1.21	1.40	<0.05
MAOIs	2.05	1.07	3.95	<0.05
Index Prescriber (ref=Primary Care)				
Psychiatry	1.07	1.03	1.11	<0.05
Other	1.05	1.01	1.08	<0.05

* Model also adjusted for patient sex (n.s.), U.S. Census region, anxiety (n.s.), sleep-wake disorders (n.s.), and adjustment disorders (n.s.)

- The Hazard Ratio for ADT treatment discontinuation is below 1 (lower risk of discontinuation) among individuals who initiate psychotherapy within 30 days of index (HR: 0.87) or between 31 and 90 days of index (HR: 0.92).
- The Hazard Ratio for ADT treatment discontinuation is higher than one for individuals 40 years of age and younger and individuals insured by Medicaid.

Figure 2. Distribution of Time to ADT Discontinuation among the Adjunctive Psychotherapy Cohort by Time to Initiating Psychotherapy



- The ADT discontinuation rate was lowest among individuals who added adjunctive psychotherapy within 30 days of index and highest among individuals who initiated psychotherapy more than 180 days after index.

SUMMARY

- Discontinuation of ADT is common in the first two years of therapy.
- More than 4 in 10 individuals stop and start ADT therapy more than once in the two years following ADT treatment initiation.
- Providing psychotherapeutic interventions early in the course of treatment may improve persistence with ADT medication and improve outcomes.
- Alternative care models may be needed to offset the national shortage of psychotherapists[4] for individuals who do not have access to, or who may be resistant to face-to-face psychotherapy services.

LIMITATIONS

- Clarivate does not include continuous eligibility. The study required the presence of claims for healthcare services or pharmacy during each quarter of the measurement period as a proxy for eligibility.
- Persistence with medication was a central outcome but is not directly measurable in claims data. The study used pharmacy fills as the closest proxy.

CITATIONS

1. NIMH Health Statistics, Major Depression. https://www.nimh.nih.gov/health/statistics/major-depression.shtml (accessed 8/8/2022).
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4. USA Facts. Over one-third of Americans live in areas lacking mental health professionals. (2021). https://usafacts.org/articles/over-one-third-of-americans-live-in-areas-lacking-mental-health-professionals/
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DISCLOSURES

This study was paid for and conducted by Orexo US Inc.

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