

A Mirror-image Study on Inpatients with Bipolar I Disorder Receiving Long-acting Injectable Antipsychotic Treatment: Impacts on Treatment Continuity and Hospitalization

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ABSTRACT

Introduction: This study aimed to evaluate one-year real-world outcomes in patients with bipolar I disorder who were initiated on long-acting injectable (LAI) antipsychotics during hospitalization, focusing on hospitalization burden, treatment continuity, individual response heterogeneity, LAI persistence, and treatment simplification.

Methods: In this retrospective, single-center, mirror-image study, 48 patients were evaluated using clinical records from the year before and after LAI initiation. The primary outcome was the change in total hospitalization days. Secondary outcomes included the number of hospitalizations, readmissions, treatment continuity at ± 3 , ± 6 , and ± 12 months, LAI maintenance, and medication changes. Paired pre- and post-LAI outcomes were analyzed using non-parametric tests.

Results: In patients with complete follow-up, the mean number of hospitalizations did not change significantly from the pre-LAI to post-LAI period ($p=0.975$), nor did the mean number of hospitalization days ($p=0.885$). Among patients with at least one pre-LAI hospitalization,

the number of hospitalizations decreased from 1.29 ± 0.72 to 0.71 ± 0.85 ($p=0.016$). Treatment continuity increased from 68.8% to 95.8% between -3 and +3 months ($p=0.001$) and from 71.7% to 91.3% during the ± 6 -month period ($p=0.022$); however, no such increase was observed at ± 12 months (82.1% vs. 84.6%; $p=1.000$). Individual hospitalization outcomes were heterogeneous, and 52.4% of patients with available data experienced a reduction in the number of medications during the follow-up.

Conclusion: Inpatient LAI initiation was associated with improved early treatment continuity but not with an overall reduction in one-year hospitalization burden. Because the index hospitalization was not a random time point, the observed pre- and post-differences cannot be attributed solely to LAI initiation.

Keywords: Bipolar disorder, long-acting injectable antipsychotics, treatment continuity, hospitalization, mirror-image study, rehospitalization.

Cite this article as: Korkmaz ŞA, Çınar Yorulmaz Ş, Fenni Z, Söylen M, Taşkın N. A Mirror-image Study on Inpatients with Bipolar I Disorder Receiving Long-acting Injectable Antipsychotic Treatment: Impacts on Treatment Continuity and Hospitalization. Arch Neuropsychiatry 2026;63:629–634. doi: 10.29399/npa.29504

INTRODUCTION

Bipolar disorder (BD) is a mental illness characterized by recurrent mood episodes that significantly impact functioning and are often associated with difficulties in adhering to treatment (1,2). Even when patients diagnosed with BD are in remission, they may continue to experience persistent problems with functioning and quality of life. Poor medication adherence also increases the likelihood of relapse, which can hinder long-term functional recovery (1,3). Maintaining continuous treatment is crucial in preventing relapses and hospitalizations (2). Nevertheless, non-adherence to treatment, especially shortly after remission, increases the risk of hospital readmission (3). In this scenario, long-acting injectable (LAI) antipsychotics play an increasingly vital role in supporting treatment adherence and reducing the risk of relapse (4,5).

Long-acting injectable antipsychotics may improve adherence and continuity by reducing the challenges of daily oral medication,

Highlights

- Treatment continuity was high during the early post-index period.
- Hospitalizations and hospital stays did not decrease significantly after LAI use.
- A decrease in admissions was observed among patients hospitalized prior to LAI.
- Anticholinergic, benzodiazepine, and oral antipsychotic use decreased with LAI.
- Hospitalization outcomes were heterogeneous and unrelated to LAI type.

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Received Date: 23.06.2026, **Accepted Date:** 31.08.2026, **Publication Date:** 24.10.2026

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making treatment management easier, and lowering relapse risk (4,5). Nonetheless, real-world evidence for LAIs in bipolar disorder is scarcer than that for schizophrenia spectrum disorders (5,6). Mirror-image studies are especially useful because they utilize real-world data, are highly relevant to particular clinical groups, enable direct evaluation of clinical outcomes, and accurately capture psychiatry-specific issues, such as treatment adherence (6).

Previous mirror-image studies in bipolar disorder have generally reported reductions in hospital admissions and hospitalization days after LAI initiation (6–8), but have focused primarily on aggregate hospitalization outcomes. Evidence is more limited for the clinically distinct group in whom LAI treatment is initiated during an acute psychiatric hospitalization, and it remains unclear whether subsequent outcomes are uniform across patients or vary according to baseline hospitalization burden and LAI persistence. Furthermore, documented treatment continuity around the index hospitalization, individual response patterns, and changes in medication count have received comparatively limited attention within the same real-world framework. We therefore addressed three clinically relevant questions: 1) whether hospitalization frequency and total hospitalization days differed during the year after inpatient LAI initiation; 2) how documented treatment continuity evolved around the index hospitalization; and 3) whether hospitalization outcomes varied according to baseline hospitalization burden and subsequent LAI persistence. Accordingly, this study aimed to characterize one-year real-world outcomes following inpatient LAI initiation in patients with bipolar I disorder, including hospitalization burden, documented treatment continuity, individual response heterogeneity, LAI persistence, and treatment simplification.

METHODS

Study design and sample

This retrospective, single-center, mirror-image study included patients with a diagnosis of bipolar I disorder established during routine clinical care by treating psychiatrists according to ICD-10 criteria. Diagnostic status was ascertained retrospectively from the medical records, and no structured or semi-structured diagnostic interview was administered specifically for the present study. The initiation of an LAI at hospital admission for a new episode (mania or depression) was considered the ‘index admission’. Clinical records for the year before and after this admission were reviewed retrospectively. Because this was a retrospective study using a census sampling approach, no *a priori* sample-size calculation was performed. All patients who met the eligibility criteria during the study period from April 2015 to December 2025 were included, and the final cohort comprised 48 patients.

Variables

Demographic information, including age, gender, years of education, marital status, and cohabitation status, was documented. Clinical data encompassed illness duration, total episodes, counts of manic/hypomanic and depressive episodes, substance use -including tobacco, alcohol, and other drugs-, medical comorbidities, family psychiatric history, reason for the initial admission, presence of psychotic or mixed features, suicide attempts, previous use of LAI, and length of the initial hospital stay.

Treatment variables documented included the type of LAI started, discharge treatment, use of mood stabilizers, additional antipsychotics beyond LAI, and the use of antidepressants, benzodiazepines, and biperiden. Follow-up variables evaluated were the total number of admissions in the year before and after the index admission, total days

admitted, treatment continuity, whether the LAI was maintained, the timing of LAI discontinuation, reasons for stopping, changes in LAI, and reductions in medication count.

Outcome Variables

The primary outcome was the change in the total number of days spent in psychiatric hospitalization between the 12-month pre-index and post-index periods. The index hospitalization and its duration were excluded from these calculations. Post-LAI hospitalization frequency and total hospitalization days therefore reflected only subsequent psychiatric readmissions occurring after discharge from the index hospitalization. Secondary outcomes included the total number of hospitalizations, any readmission, treatment continuity at 3, 6, and 12 months, LAI maintenance, and modifications in LAI during follow-up.

Treatment continuity was assessed at 3, 6, and 12 months before and after the index hospitalization, based on medical record documentation. At each assessment point, patients were classified as treated if the records documented an active pharmacological treatment regimen that included at least one prescribed psychotropic medication, such as an LAI or an oral medication. They were classified as untreated if the records documented that they were not receiving any psychiatric pharmacotherapy. Treatment continuity was evaluated separately from LAI persistence, which referred specifically to the continuation of the initiated LAI. When treatment status could not be determined from the available records, the observation was coded as missing and excluded from the paired analysis for that time point.

Because the index hospitalization was precipitated by an acute mood episode and did not represent a random time point, the pre- and post-index treatment-continuity periods were not considered clinically exchangeable. Accordingly, matched pre/post comparisons were treated as exploratory descriptions of treatment-status changes around the index hospitalization rather than as estimates of the causal effect of LAI initiation.

In additional analyses, individual change scores for the number of hospitalizations and total hospitalization days were calculated as post-LAI minus pre-LAI values. Negative values were categorized as “decreased,” an exact difference of zero as “unchanged,” and positive values as “increased”; no predefined tolerance range was used. A transition matrix was also developed to evaluate treatment continuity before and after LAI. Patients who stopped LAI within the first 12 months were compared with those who did not, and those who discontinued exactly in month 12 were included in the ‘discontinued within the first 12 months’ group.

Statistics

Statistical analyses were performed using IBM Statistical Package for Social Sciences (SPSS) program version 27.0. Continuous variables were presented as mean $\pm$ standard deviation or median [interquartile range], depending on their distribution. Categorical variables were presented as counts and percentages. The Wilcoxon signed-rank test was used to compare matched continuous variables before and after LAI, and the McNemar test was used to analyze binary categorical variables. Differences in change between LAI maintenance groups were examined using the Mann-Whitney U test. A *p*-value less than 0.05 was considered statistically significant.

Additional exploratory analyses were conducted to investigate individual variations in hospitalization outcomes. Changes in the number of hospitalizations and length of stay were classified as decreased, unchanged, or increased, and their relationship with LAI type was assessed using chi-square tests. Continuous change scores—calculated

as the difference between post- and pre-LAI values—were compared across LAI types with the Kruskal-Wallis test. To evaluate the post-index trajectory without relying on clinically non-equivalent pre- and post-index contrasts, treatment continuity at 3, 6, and 12 months was compared among participants with complete data at all three post-index assessments using Cochran's Q test. Exact pairwise McNemar tests with Holm adjustment were used for post-hoc comparisons when evaluating differences among the post-index assessments. Transition matrices summarized treatment continuity transitions, and comparisons regarding LAI discontinuation within the first 12 months were exploratory, given the small subgroup sizes. Sensitivity analyses in the entire sample involved annualizing post-LAI hospitalization outcomes for patients with less than 12 months of follow-up.

Effect sizes were reported for the principal paired outcomes. Matched-pairs rank-biserial correlations (r_{rb}) were calculated for continuous outcomes analyzed using the Wilcoxon signed-rank test, whereas absolute paired risk differences (RDs) were calculated for binary outcomes analyzed using McNemar's test. Ninety-five percent confidence intervals for the principal paired outcomes were estimated using 10,000 nonparametric bootstrap resamples.

RESULTS

Demographic and Clinical Characteristics of the Sample

A total of 48 eligible patients were included in the study. Complete 12-month follow-up data were available for 43 patients (89.6%), who constituted the primary cohort for paired analysis. All 48 patients were included in the annualized sensitivity analyses. The mean age was 38.1 ± 11.1 years (range: 18–67), and 29 were women (60.4%) and 19 were men (39.6%). The median duration of the illness was 10 years [6–17], and the median number of episodes was 5 [3–7.75]. The primary reason for hospitalization was a manic/hypomanic episode in 37 patients (77.1%) and a depressive episode in 11 patients (22.9%). Psychotic symptoms were observed in 19 patients (39.6%), and mixed symptoms were observed in 12 patients (25.0%). A suicide attempt contributed to hospitalization in 14 patients (29.2%). Additionally, 12 patients (25.0%) had a history of long-acting injectable (LAI) medication use.

The index hospitalization lasted 19.0 ± 11.7 days (median 16.5 [10.0–25.25]). Among the LAIs prescribed, paliperidone and aripiprazole were the most frequently used, each administered to 16 patients (33.3%). Risperidone was used in 9 patients (18.8%), zuclopenthixol in 6 (12.5%), and haloperidol in 1 (2.1%).

Mirror-image Hospitalization Results

Among the 43 patients with a full year of follow-up data, the mean number of hospitalizations in the year before the index admission was 0.63 ± 0.82 , and after LAI it was 0.65 ± 0.87 ; this difference was not statistically significant ($p=0.975$; $r_{rb}=0.007$, 95% CI=-0.420 to 0.431). The total hospitalization days were 7.07 ± 9.23 days pre-LAI and 7.74 ± 13.90 days post-LAI, with no significant change ($p=0.885$; $r_{rb}=-0.032$, 95% CI=-0.474 to 0.406). Median values for both hospitalizations and hospitalization days were zero in both periods (see Table 1).

The periods before and after LAI showed similar rates of at least one hospitalization. The proportion of patients hospitalized at least once per year was 48.8% before LAI and 46.5% after LAI; this difference was not statistically significant ($p=1.000$; RD=-0.023, 95% CI=-0.233 to 0.186).

To further examine the potential floor effect in hospitalization outcomes, patients were divided into those with and without any hospitalizations in the year before starting LAI. Among those with at least one pre-LAI hospitalization ($n=21$), the mean number of hospitalizations decreased from 1.29 ± 0.72 to 0.71 ± 0.85 ($p=0.016$; $r_{rb}=-0.650$, 95% CI=-1.000 to -0.228), and the mean number of hospitalization days decreased from 14.48 ± 8.15 to 10.71 ± 16.25 days, although this was not statistically significant ($p=0.107$; $r_{rb}=-0.421$, 95% CI=-0.848 to 0.074). Conversely, patients without prior hospitalizations ($n=22$) showed an increase in mean hospitalizations from 0.00 ± 0.00 to 0.59 ± 0.91 ($p=0.005$), and mean hospitalization days rose from 0.00 ± 0.00 to 4.91 ± 10.86 days ($p=0.012$).

Sensitivity analyses, including all 48 patients, with annualized hospitalization outcomes post-LAI for those with less than 12 months of follow-up, showed similar results. There were no significant changes in the number of hospitalizations (0.69 ± 0.88 before LAI vs. 0.61 ± 0.85 after LAI, $p=0.646$) or in hospitalization days (7.83 ± 10.00 before LAI vs. 7.16 ± 13.33 after LAI, $p=0.459$).

Changes in the burden of hospitalization at the individual level

While the mean length of stay showed no significant change, individual outcomes varied. The total hospitalizations decreased in 12 patients (27.9%), remained the same in 19 patients (44.2%), and increased in 12 patients (27.9%). Similarly, the total days hospitalized decreased in 13 patients (30.2%), remained unchanged in 16 patients (37.2%), and increased in 14 patients (32.6%) (Table 2).

Exploratory analyses revealed no significant link between LAI type and individual changes in hospitalization burden. Long-acting injectable type did not significantly relate to categorical changes in hospitalization frequency (decreased, unchanged, increased; $\chi^2=6.13$, $df=6$, $p=0.409$) or

Table 1. Clinical outcomes one year before and after LAI

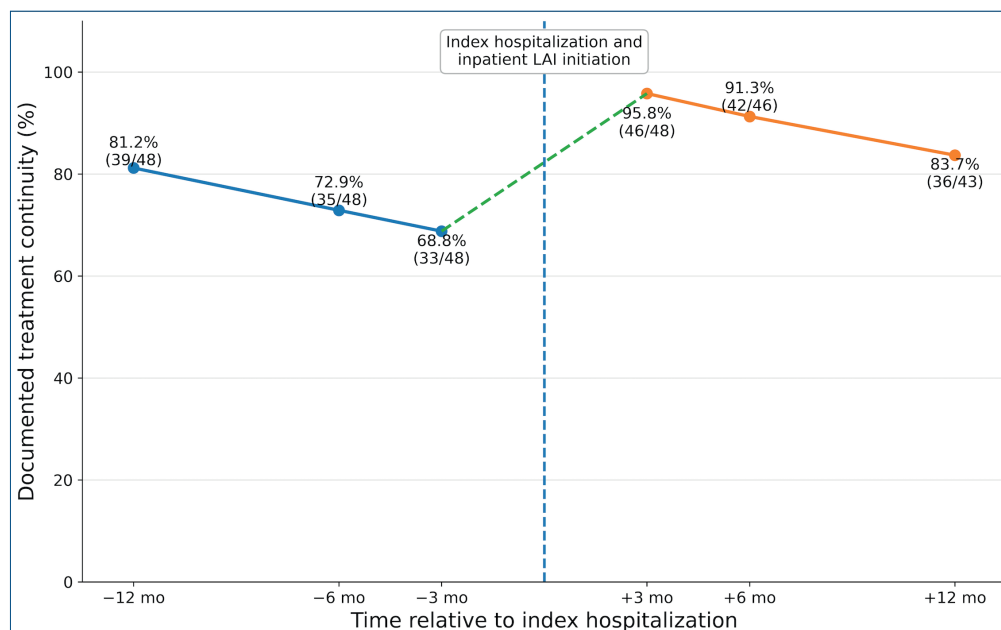
Outcome variables	Pre-LAI	Post-LAI	p	Effect size (95% CI)
Total number of hospitalizations, mean $\pm$ SD	0.63 ± 0.82	0.65 ± 0.87	0.975	0.007 (-0.420 to 0.431)
Total number of hospitalizations, median [IQR]	0 [0–1]	0 [0–1]		
Total length of stay, mean $\pm$ SD	7.07 ± 9.23	7.74 ± 13.90	0.885	-0.032 (-0.474 to 0.406)
Total length of stay, median [IQR]	0 [0–13.5]	0 [0–6.5]		
Presence of at least one hospitalization, n (%)	21/43 (48.8)	20/43 (46.5)	1.000	-0.023 (-0.233 to 0.186)
Treatment continuity at 3 months, n (%)	33/48 (68.8)*	46/48 (95.8)	0.001	0.271 (0.146 to 0.417)
Treatment continuity at 6 months, n (%)	33/46 (71.7)*	42/46 (91.3)	0.022	0.196 (0.065 to 0.348)
Treatment continuity at 12 months, n (%)	32/39 (82.1)	33/39 (84.6)	1.000	0.026 (-0.128 to 0.179)

Note: Effect sizes are presented as matched-pairs rank-biserial correlations (r_{rb}) for continuous outcomes and paired risk differences (RDs) for binary outcomes. Positive values indicate higher post-LAI values. * Refers to 3, 6, and 12 months before the start of LAI treatment. Analyses of the number and days of hospitalizations were conducted for 43 patients with complete one-year follow-up data. Missing or unknown records were excluded from the 12-month treatment continuity analysis. CI: confidence interval; LAI: long-acting injectable antipsychotic; RD: risk difference; SD: standard deviation; IQR: interquartile range.

Table 2. Change in individual admission burden following LAI

Variable	Decreased, n (%)	Unchanged, n (%)	Increased, n (%)
Total number of hospitalizations	12/43 (27.9)	19/43 (44.2)	12/43 (27.9)
Total days of hospitalization	13/43 (30.2)	16/43 (37.2)	14/43 (32.6)

Note: The index hospitalization during which LAI treatment was initiated and its duration were excluded from post-LAI hospitalization outcomes. Post-LAI values represent only subsequent psychiatric readmissions and the days attributable to those readmissions. Change was calculated as the post-LAI value minus the pre-LAI value. Unchanged indicates an exact difference of zero; no predefined tolerance range was used. LAI: long-acting injectable antipsychotic

**Figure 1.** Treatment continuity before and after inpatient initiation of long-acting injectable antipsychotics.

hospital days ($\chi^2=5.02$, $df=6$, $p=0.541$). Likewise, when examining changes as continuous difference scores, no notable differences emerged across LAI types in hospitalization numbers (Kruskal-Wallis $H=2.73$, $p=0.435$) or days hospitalized (Kruskal-Wallis $H=1.95$, $p=0.582$).

Treatment Continuity

At matched time points, documented treatment continuity was higher at 3 months after the index hospitalization than at 3 months before the index hospitalization (95.8% vs. 68.8%; risk difference=0.271, 95% CI=0.146–0.417; $p=0.001$). A similar pattern was observed at 6 months (91.3% vs. 71.7%; risk difference=0.196, 95% CI=0.065–0.348; $p=0.022$), whereas little difference was observed at 12 months (84.6% vs. 82.1%; risk difference=0.026, 95% CI=–0.128 to 0.179; $p=1.000$). Because the index hospitalization was not a random time point, these matched contrasts were considered exploratory descriptions of treatment-status changes around the hospitalization and were not interpreted as evidence of a causal effect of LAI initiation. The early improvement in treatment continuity and its attenuation by the 12th month are illustrated in Figure 1.

Among the 43 participants with complete data at all three post-index assessments, treatment continuity was 95.3% (41/43) at 3 months, 93.0% (40/43) at 6 months, and 83.7% (36/43) at 12 months. Cochran's Q test showed borderline evidence of variation across the post-index assessments ($Q[2]=6.00$, $p=0.050$); however, none of the pairwise comparisons remained significant after Holm adjustment (all adjusted $p \geq 0.375$). The observed pattern, therefore, indicated gradual attenuation of the high early post-index continuity rather than a clearly localized pairwise decline.

The transition matrix showed that the higher prevalence of documented treatment at the 3-month post-index assessment reflected 14 participants transitioning from untreated to treated status, compared with 1 participant transitioning from treated to untreated status (Table 3). These transitions occurred around the index hospitalization and should not be attributed specifically to the initiation of LAI.

Long-Acting Injectable Maintenance and Treatment Changes

Among the 43 patients with complete one-year follow-up data, LAI treatment was discontinued within the first 12 months in 10 patients (23.3%), whereas 33 patients (76.7%) had no record of discontinuation during this period. Hospitalization days remained relatively stable among patients without LAI discontinuation, decreasing from 8.39 ± 9.74 days before LAI initiation to 7.67 ± 13.91 days after LAI initiation ($p=0.543$). In patients who discontinued LAI within the first year, the total number of hospitalization days increased from 2.70 ± 5.70 to 8.00 ± 14.64 days, although this change was not statistically significant ($p=0.463$). Changes in hospitalization days ($p=0.408$) and number of hospitalizations ($p=0.217$) did not differ significantly between patients with and without LAI discontinuation.

At follow-up, fewer than half of the patients with available data were still receiving LAI treatment. The most frequently documented reasons for LAI discontinuation during follow-up were physician decision, patient refusal, and other reasons. Long-acting injectable switching or dose modification occurred in approximately one-third of patients, while a reduction in the total number of medications was recorded in approximately half. Exploratory analysis of paired medication lists indicated that this reduction was mainly driven by decreased use of

Table 3. Treatment Continuity Transition Matrix

Time point	Untreated → Treated	Treated → Untreated	Treated at both assessments	Untreated at both assessments	p
3 months	14	1	32	1	0.001
6 months	11	2	31	2	0.022
12 months	6	5	27	1	1.000

Note: Treatment continuity was defined as documented receipt of at least one prescribed psychotropic medication at the respective assessment point. Patients whose treatment status could not be determined were excluded pairwise from the corresponding analysis. Treatment continuity was distinct from LAI persistence. The p values represent exploratory matched pre/post comparisons and should not be interpreted as estimates of the causal effect of LAI initiation.

Table 4. LAI persistence and medication changes during follow-up

Variables	Findings
Discontinuation of LAI within the first 12 months	10/43 (23.3%)
LAI switch or dose adjustment	16/44 (36.4%)
A decrease in the total medication count	22/42 (52.4%)
Anticholinergic use	22.5% → 2.5%; p=0.008
Benzodiazepine use	22.5% → 5.0%; p=0.065
Concomitant use of oral antipsychotics	82.5% → 62.5%; p=0.057

anticholinergics, benzodiazepines, and concomitant oral antipsychotics, whereas mood stabilizer use remained stable (Table 4).

DISCUSSION

This retrospective mirror-image study evaluated the one-year clinical outcomes of patients with bipolar I disorder who started on an LAI antipsychotic during inpatient care. The main result showed that, overall, initiating LAI did not significantly lower the total number of hospitalizations over a year. Documented treatment continuity was high during the early post-index period and gradually attenuated over 12 months. Patients hospitalized at least once in the year before LAI experienced a significant reduction in hospitalizations, whereas those without prior hospitalizations did not. Individual-level analysis revealed that hospitalization outcomes varied greatly among patients.

Many previous mirror-image studies on bipolar disorder have found decreased hospitalizations after starting LAI treatment (6–8). However, the clinical advantage of LAI has not been consistently demonstrated in real-world and comparative studies (4,9,10). One reason LAI may not have reduced hospitalizations in our study is the low baseline hospitalization rate in our sample. Since over half of patients with complete follow-up data had no hospitalizations in the year prior to LAI, this may have influenced the baseline. When patients were stratified by prior hospitalizations, a significant reduction was observed only among those with at least one hospitalization prior to LAI. Pre- and post-reductions in hospitalization may be more readily detectable among patients with a higher recent hospitalization burden. Conversely, in groups with many patients having no pre-LAI hospitalizations, the overall mirror-image effect appears weaker. The consistency of results in a sensitivity analysis—including all 48 patients and annualized data for those with less than 12 months of follow-up—supports the overall neutral findings regarding hospitalizations and length of hospital stay.

The increase in treatment continuity observed in the early post-LAI period is a clinically relevant finding (2,11). Treatment continuity improved significantly at 3 and 6 months after LAI; the transition matrix indicated that this increase was primarily due to the re-enrollment of previously untreated patients into the treatment system. This finding suggests that, in this real-world sample where LAI was initiated during hospitalization,

it may be possible to increase treatment participation during the critical post-discharge period. However, because this benefit was not sustained at 12 months, initiating LAI alone does not appear to guarantee long-term continuity (12). Consequently, structured post-discharge follow-up, active monitoring of injection appointments, psychoeducation, side effect management, and family or community support may be beneficial for sustaining LAI treatment over time (11,13,14).

The high level of documented treatment continuity during the early post-index period should be interpreted in the clinical context of the index hospitalization. The pre-index period may have coincided with progressive clinical deterioration, treatment discontinuation, or reduced contact with services, whereas the post-index period followed inpatient stabilization, medication revision, discharge planning, and potentially closer clinical and family monitoring. Consequently, the higher early post-index continuity may reflect the combined effects of hospitalization and post-discharge care, regression to the mean, and treatment-selection processes, rather than the isolated effect of LAI initiation. Moreover, continuity gradually decreased over the subsequent 12 months, although the adjusted pairwise post-index comparisons were not statistically significant. This pattern suggests that the intensive treatment engagement surrounding hospitalization may not be sustained over longer follow-up periods.

Another important clinical finding is that a reduction in the total number of psychotropic medications used by patients was observed in approximately half of them during follow-up after LAI. Analysis of matched medication lists showed that this reduction was primarily due to decreased use of anticholinergic agents, benzodiazepines, and oral antipsychotics, whereas the use of mood stabilizers remained unchanged (15). This suggests that, for at least some patients, LAI treatment may simplify medication regimens (16). Nevertheless, a reduction in the number of medications does not necessarily indicate a proportional reduction in overall pharmacological exposure or regimen complexity. Since medication reduction was not measured using standardized antipsychotic dose equivalents or a validated burden index, this finding should be considered exploratory (17,18).

This study has several limitations. First, the study is retrospective in nature and was conducted using data from a single center. Second, the small sample size limits statistical power, particularly for subgroup analyses by LAI type and treatment discontinuation. Third, since there was no control group receiving ongoing oral therapy, it may not be appropriate to attribute the observed changes definitively to LAI therapy alone. Fourth, since the decision to initiate LAI therapy was based on the clinician's judgment, there is a possibility of selection bias. Fifth, diagnoses were based on routine clinical assessments documented in the medical records rather than on a structured research interview. Although these assessments were conducted by psychiatrists according to ICD-10 criteria, some degree of diagnostic misclassification cannot be excluded. Most importantly, the index hospitalization was a clinically selected and non-random event, and the pre- and post-index periods were therefore not clinically equivalent. Acute deterioration before

hospitalization and stabilization, discharge planning, closer follow-up, and family involvement afterward may have contributed to the observed continuity pattern. Thus, the pre- and post-differences cannot be interpreted as the causal effect of LAI initiation. In addition, treatment continuity was determined based on documented active pharmacotherapy and may not necessarily reflect actual medication use or adherence. Finally, some analyses—such as those regarding baseline hospitalization burden, LAI type, treatment discontinuation, and dose reduction—were conducted on small subgroups and were not adjusted for multiple comparisons; thus, these findings are exploratory rather than confirmatory.

In conclusion, treatment continuity was high during the early period following inpatient LAI initiation but attenuated over 12 months, with no overall reduction in the one-year hospitalization burden. Because the index hospitalization was a clinically selected and non-random event, these findings cannot be attributed solely to LAI initiation. Hospitalization outcomes were heterogeneous, and treatment simplification was observed in some patients. Prospective controlled studies are needed to clarify the contribution of LAI treatment and the broader inpatient and post-discharge care process to these outcomes.

Ethics Committee Approval: This study has been approved by the Ethics Committee for Non-Interventional Clinical Research at Çanakkale Onsekiz Mart University (meeting no. 2026-10/10-10 and application no. 2026-177).

Informed Consent: Because this was a retrospective, hospital-based study, consent could not be obtained from the participants.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept- ŞAK; Design- ŞAK; Supervision- ŞAK; Resource- ŞAK, ŞÇY, NT; Data Collection and/or Processing- ŞÇY, ZF, MS, NT; Analysis and/or Interpretation- ŞAK; Literature Search- ŞÇY, ZF, MS, NT; Writing- ŞAK, ŞÇY, ZF, MS, NT; Critical Reviews- ŞAK.

Conflict of Interest: The authors declared that there is no conflict of interest.

Financial Disclosure: This research received no specific grant from any funding agency, whether commercial or not-for-profit.

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