

## “REVOLVING DOOR” AND BIPOLAR DISORDERS: A RETROSPECTIVE STUDY IN AN ACUTE INPATIENT UNIT

Giulia Menculini<sup>1,\*</sup>, Chiara Gobbicchi<sup>1,2,\*</sup>, Norma Verdolini<sup>1,3</sup>, Federica Cirimbilli<sup>1</sup>,  
Patrizia Moretti<sup>1</sup> & Alfonso Tortorella<sup>1</sup>

<sup>1</sup>Department of Psychiatry, University of Perugia, Perugia, Italy

<sup>2</sup>Department of Mental Health, Terni, Italy

<sup>3</sup>Bipolar and Depressive Disorders Unit, Hospital Clinic, University of Barcelona, IDIBAPS, CIBERSAM,  
Institute of Neuroscience, Barcelona, Catalonia, Spain

\* Authors equally contributed to this research

### SUMMARY

**Introduction:** The present retrospective study investigated clinical correlates of the revolving door (RD) phenomenon in a population of subjects affected by Bipolar Disorders (BDs).

**Subjects and methods:** Medical records of subjects with BDs admitted to a psychiatric inpatient unit over a 5-year period of time were retrospectively reviewed and clinical data were extracted into an electronic dataset. “Revolving Door Subjects” (RDS) were defined as those who presented three or more “Revolving Door Hospitalizations” (RDH) during twelve months. Features of RDH were compared with non-RDH in order to identify characteristics associated with RD phenomenon and possible risk factors for readmission. To explore predictors of RDH, a stepwise backward logistic regression model was built, including the variables that were significantly associated with RDH in the bivariate analyses.

**Results:** In our sample of 176 subjects affected by BDs, 53 (19.9%) RDH were identified. In the RDH group, a higher prevalence of mixed episodes ( $p=0.029$ ) and medical co-morbidities ( $p=0.004$ ) was detected. Subjects with repeated hospitalizations were more often committed to psychiatric residential facilities at discharge ( $p=0.002$ ). Treatment features related to RDH were represented by a higher prescription rate of atypical antipsychotics ( $p=0.030$ ), benzodiazepines ( $p=0.001$ ) and antidepressants ( $p=0.048$ ).

**Conclusions:** Findings from the present study suggest that the early identification and treatment of medical comorbidities and specific clinical features of BDs may help reducing the RD phenomenon in this population of subjects.

**Key words:** revolving door - bipolar disorders - affective disorders - re-hospitalizations - serious mental illnesses

\* \* \* \* \*

### INTRODUCTION

The term “revolving door” (RD) defines subjects who undergo repeated hospitalizations in psychiatric units (Morlino et al. 2011, Garrido & Saraiva 2012). The re-organization of mental health services, which took place during the last decades of the 20th century as a consequence of deinstitutionalization policies, led to the establishment of community-based services, with a gradual reduction of the number of acute and sub-acute inpatient psychiatric beds, thus contributing to the growth of the RD phenomenon (Botha et al. 2010, Di Lorenzo et al. 2016). During the last years, the interest on the topic increased, due to its relevant implications under both a clinical and financial point of view (Morlino et al. 2011). The RD phenomenon was described across different countries, with no significant variations in terms of prevalence, despite disparate organizations of healthcare systems (Botha et al. 2010, Di Lorenzo et al. 2016). Previous studies analyzing possible socio-demographic, clinical and treatment correlates of the RD phenomenon underlined the high burden that repeated hospitalizations determine in the context of serious mental illnesses (Webb et al. 2007, Peritogiannis et al. 2008, Callaly et al. 2011, Frick et al.

2013, Moss et al. 2014, Di Lorenzo et al. 2016). Bipolar disorders (BDs) are complex clinical conditions, characterized by high relapse rates and often complicated by frequent hospital readmissions (Um et al. 2020). Male gender, unsatisfactory socio-economic conditions, and global functioning impairment were identified as risk factors for rehospitalizations in BDs within the same year (Hamilton et al. 2016). As for psychopathological characteristics, Bipolar Disorder type II (BD-II) appears to be associated to a lesser extent with RD, whilst impulsivity and aggressive behaviors were linked to higher hospitalization rates (Ballester et al. 2012, Bega et al. 2012, Hamilton et al. 2016). Despite this, predictive factors for psychiatric readmissions in BDs are not yet well understood since most studies analyzed the RD phenomenon in mix-diagnosis samples and existing research on the topic mainly focuses on specific features, e.g. psychopharmacological treatment (Woo et al. 2014, Vigod et al. 2015, Um et al. 2020). Given the relevance of the problem under a clinical and economic point of view, the identification of specific risk factors for RD in subjects affected by BDs claims further attention. As a consequence, the present retrospective study was aimed at investigating clinical correlates of repeated hospitalizations in individuals diagnosed with

BDs, as well as features of psychiatric care that may be related to RD in this population. Such information could help a better identification of at-risk patients, shaping possible treatment strategies and allowing a more efficient distribution of health care resources.

## SUBJECTS AND METHODS

### Subjects

The present retrospective cohort study was conducted in the Psychiatric Inpatient Unit of University/General Hospital of Perugia, Umbria, Italy, between June 20th 2011 and June 30th 2016. Subjects affected by BDs according to the latest editions of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR, DSM-5; American Psychiatric Association 2000, 2013) were considered for inclusion in the study. "Revolving Door Subjects" (RDS) were defined as those who presented three or more "Revolving Door Hospitalizations" (RDH) during twelve months (Morlino et al. 2011, Di Lorenzo et al. 2016).

### Methods

Data related to hospitalizations of subjects affected by BDs were extracted from medical charts and subsequently collected in an electronic datasheet for statistical analysis. The collected variables included sociodemographic characteristics of RDS and clinical features related to RDH, encompassing treatment-related factors and different modalities of discharge. The twelve-month period following the first hospitalization was analyzed for each subject in order to determine whether they belonged to the RDS group or not. Subsequently, hospitalizations were categorized as RDH and non-RDH. Good Epidemiologic Practice (GEP)-IEA Guidelines (<http://ieaweb.org>) were followed for proper conduct of epidemiologic research, as well as pertinent national, legal and regulatory requirements. All subjects gave informed consent for the use of personal and clinical data for research purposes during the hospitalizations.

### Statistical analyses

A descriptive analysis was performed in order to assess the distributional properties of variables within the considered sample. Features of RDH were compared with non-RDH in order to identify characteristics associated with RD phenomenon and possible risk factors for readmission. Bivariate analyses were performed to compare the two groups, using Chi-square test for categorical variables, and Student's t-test for continuous variables, after assessing the normality of distribution of the variables evaluated. To explore predictors of RDH, a stepwise backward logistic regression model was built, including the variables that were significantly associated with RDH in the bivariate

analyses. Odds ratios (OR) with 95% confidence intervals (CI) were assessed for observed associations. Statistical analyses were performed using the Statistical Package for Social Sciences (Statistical Package for Social Science-SPSS, 21.0 version for Windows Inc., Chicago, IL, USA). All p values were two-tailed and statistical significance was set at  $p < 0.05$ .

## RESULTS

The population of the present study consisted of 176 patients, 100 (56.8%) females and 76 (43.2%) males, with a mean age of  $45.1 \pm 12.61$ . Among these, 10 (5.7%) of the subjects were RDS for a total of 53 (19.9%) RDH. When comparing clinical features among the two subgroups, significant differences were detected as for hospitalizations reasons. In the non-RDH subgroup a higher prevalence of hypo/manic episodes was depicted (29.9% vs 7.5%,  $p = 0.002$ ), whilst episodes characterized by the presence of mixed features were more frequent among RDH (9.4% vs 2.3%,  $p = 0.029$ ). As for diagnostic features, no differences in psychiatric co-morbidities were shown between the two subgroups. Conversely, in the RDH group a higher prevalence of medical illnesses was detected (47.2% vs 25.8%,  $p = 0.004$ ). At discharge from the hospital, subjects belonging to the RDH population were more frequently committed to psychiatric residential facilities (22.6% vs 7%,  $p = 0.002$ ). When analyzing treatment features, higher rates of benzodiazepines (68.6% vs 41.7%,  $p = 0.001$ ), oral antipsychotics (70.6% vs 52.9%,  $p = 0.034$ ), especially second generation ones (58.8% vs 40.7%,  $p = 0.030$ ), and antidepressants (27.5% vs 14.6%,  $p = 0.048$ ) were demonstrated to be prescribed in the RDH group (see Table 1).

After performing a stepwise backward multivariate modeling procedure ( $\chi^2(5) = 38.024$ ,  $p < 0.001$ ) with RDH as the dependent variable, the model explained between 14% (COX and Snell R Square) and 22% (Nagelkerke R Square) of the variance. Statistical significance persisted for treatment with benzodiazepines ( $p = 0.007$ , OR=2.60, CI=1.292-5.220), commitment to psychiatric residential facilities at discharge ( $p = 0.013$ , OR=3.07, CI=1.264-7.436), and the presence of a medical co-morbidity ( $p = 0.049$ , OR=1.99, CI=1.001-3.957), that were positively associated with RDH, whilst hospitalization due to a hypomanic episode displayed a negative association with RDH ( $p = 0.011$ , OR=0.24, CI=0.080-0.721).

## DISCUSSION

In the present study, the prevalence of the RD phenomenon among subjects affected by BDs appears to be lower than what detected in previous literature (Hamilton et al. 2016). This could be related to different definitions of RD and distinct timeframes analyzed through various

**Table 1.** Comparison between subjects with BDs with and without RDH

	RDH (n=53, 80.1%)	non-RDH (n=214, 19.9%)	$\chi^2$	p
<b>Admission-related features</b>				
Involuntary hospitalization	15 (28.3)	83 (38.8)	1.584	0.208
Committed from a Mental Health Service	32 (60.4)	114 (53.8)	0.504	0.478
<b>Reasons of hospitalization</b>				
Hypo/manic episode	4 (7.5)	64 (29.9)	10.041	0.002
Mixed episode	5 (9.4)	5 (2.3)	4.130	0.029
Depressive episode	4 (7.5)	13 (6.1)	0.006	0.937
Acute psychosis	6 (11.3)	15 (7)	0.576	0.478
Psychomotor agitation	12 (22.6)	43 (20.1)	0.049	0.825
Self-harm	5 (9.4)	19 (8.9)	0.000	1.000
Suicidal ideation	1 (1.9)	4 (1.9)	0.000	1.000
Social reasons	3 (5.7)	2 (0.9)	2.911	0.055
<b>Diagnostic features</b>				
Substance abuse	7 (13.2)	10 (4.7)	3.857	0.052
Personality disorders	5 (9.4)	33 (15.4)	0.805	0.307
Medical comorbidity	25 (47.2)	55 (25.8)	8.210	0.004
<b>Treatment features</b>				
Antidepressants	14 (27.5)	30 (14.6)	3.920	0.048
Benzodiazepines	35 (68.6)	86 (41.7)	10.801	0.001
Long acting injectable antipsychotics	2 (3.9)	11 (5.3)	0.003	1.000
Mood stabilizers	27 (52.9)	87 (42.2)	1.490	0.222
Oral antipsychotics	36 (70.6)	108 (52.9)	4.476	0.034
First-generation antipsychotics	13 (24.5)	43 (20.1)	0.272	0.602
Second-generation antipsychotics	30 (58.8)	83 (40.7)	4.720	0.030
<b>Discharge-related features</b>				
Community Residential Facility	12 (22.6)	15 (7)	9.765	0.002
Outpatient Mental Health Service	30 (56.6)	147 (68.7)	2.263	0.132
	Mean (SD)	Mean (SD)	t	p
Length of stay	16.64 (10.69)	13.33 (18.26)	-1.266	0.210

Notes: BDs = Bipolar Disorders; nRDH = Non-Revolution Door Hospitalizations; RDH = Revolving Door hospitalizations

studies. Several factors appeared to be associated with repeated hospitalizations in BDs. As for diagnostic correlates, mixed episodes were significantly more frequent in subjects belonging to the RDH group. The presence of mixed features, occurring in about 30-40% of affective episodes during the course of BDs, contributes to the overall complexity of such disorders (McIntyre et al. 2015, Verdolini et al. 2015). The presence of mixed episodes was associated with higher comorbidity rates, more frequent suicide attempts, longer duration and resistance to pharmacological treatment, determining a less favourable course of illness (Solè et al. 2017). The correct identification and treatment of mixed states represents a still debated issue in psychiatry, with an increasing amount of literature focusing of these clinical entities (Stahl et al. 2017, Verdolini et al. 2018). Results from the present study confirm that further research on mixed features may help reducing the global burden of disease in BDs. In the present study, admission to the psychiatric unit for manic/hypomanic was inversely associated with RDH.

This finding may be related to the presence of hypomanic subjects in this subgroup, confirming the significantly low association of the diagnosis of BD type II with repeated hospitalizations (Bega et al. 2012). Future prospective studies should further clarify this result, stratifying subjects with BDs according to their diagnostic subgroup and other clinical characteristics, e.g. predominant polarity. Another finding was that the comorbidity with medical diseases represents a predictive factor for RD. Previous studies already highlighted the role of medical comorbidities as possible risk factors for psychiatric readmissions (Kim et al. 2011, Šprah et al. 2017). Medical burden in BDs is connected to a more chronic course, longer duration of illness, poorer global functioning and quality of life (Magalhães et al. 2012). Furthermore, pathways leading to both mental and organic disorders are considered to be inter-related and to interact (Šprah et al. 2017). Subsequently, the course of comorbid psychiatric and physical disorders could be mutually influenced, leading to a worsening of both conditions and a consequent

higher readmission rate due to psychiatric and/or non-psychiatric reasons (Schoepf & Heun 2014, Šprah et al. 2017). Due to the high mortality of patients with serious mental illnesses and to their unhealthy lifestyle (Correll et al. 2017, Holt et al. 2019), integrated interventions that could better target physical comorbidities were developed (Sampogna et al. 2018). Hospitalization-related factors also turned out to be statistically significant in determining RD. Commitment to residential community facilities at discharge was a predictor of RD in BDs, which was consistent with previous studies in mix-samples (Botha et al. 2010, Di Lorenzo et al. 2016, Morlino et al. 2011). Indeed, poor aftercare attendance and lack of adherence to pharmacological treatment represent major risk factors for frequent re-hospitalizations in subjects with serious mental illnesses, including BDs and schizophrenia spectrum disorders (Bodén et al. 2011, Hamilton et al. 2015). On one hand, the commitment to residential facilities may represent a possible solution to the above-stated risk factors, but on the other side it reflects a higher clinical severity and a lack of social and familiar support, that significantly contribute to the RD phenomenon in BDs (Schmutte et al. 2010, Hamilton et al. 2016). In addition, the discharge to psychiatric residential facilities could be related to an overall lower functioning, which represents a further risk factor for frequent readmission in bipolar subjects (Hamilton et al. 2016). As for treatment-related features, our study partially contrasts with previous research underlining the role of some mood stabilizers in preventing rehospitalizations in BDs (Woo et al. 2014). On the other side, the higher prescription rate of compounds belonging to other classes in the RDH group may reflect a more complex clinical condition, encompassing several symptomatological dimensions thus requiring specific targeted interventions. Benzodiazepines prescription could be explained by the higher rate of mixed episodes among RDH, since anxiety represents a core symptom in these clinical entities (McElroy & Keck 2016). Similarly, atypical antipsychotics were demonstrated to be first-line treatments for mixed episodes according to recent guidelines (Verdolini et al. 2018). Subjects in the RDH group were also more frequently prescribed antidepressants, which may result from the presence of a depressive predominant polarity, more often associated to a higher clinical complexity and unfavourable clinical course (Rosa et al. 2018, Garcia-Jimenez et al. 2019). This study presents some limitations. First, the small sample and the retrospective nature of the study limited the generalizability of findings. Since data were collected from clinical records, the number of variables that could be analyzed was finite and no specific psychopathological assessment instruments were used. Finally, since information about outpatient mental health service utilization was not available it was not possible to evaluate the adherence to outpatient programs.

## CONCLUSIONS

Findings from the present study suggest that targeted strategies focused on early identification of specific symptomatological dimensions and on the management of physical health in subjects affected by mental disorders might help reducing the RD phenomenon. The improvement of treatment adherence and social support by means of integrated treatment strategies may also be useful to reduce readmission rate and the global burden of BDs.

### Acknowledgements:

The authors thank the support of the Spanish Ministry of Science and Innovation integrated into the Plan Nacional de I+D+I and co-financed by the Instituto Salud Carlos III-Subdirección General de Evaluación and the Fondo Europeo de Desarrollo Regional (FEDER); the Instituto de Salud Carlos III; the CIBERSAM (Centro de Investigación Biomédica en Red de Salud Mental); the Secretaria d'Universitats i Recerca del Departament d'Economia i Coneixement (2017\_SGR\_1365) and the CERCA Programme / Generalitat de Catalunya.

**Conflict of interest:** None to declare.

### Contribution of individual authors:

Giulia Menculini, Chiara Gobbicchi & Norma Verdolini conceived and designed the study.

Giulia Menculini, Chiara Gobbicchi, Norma Verdolini & Federica Cirimbilli extracted data in the electronic database.

Giulia Menculini, Chiara Gobbicchi & Norma Verdolini performed the statistical analysis.

Giulia Menculini, Chiara Gobbicchi & Federica Cirimbilli wrote the first draft of the manuscript.

Norma Verdolini corrected the first draft of the manuscript;

Alfonso Tortorella, Patrizia Moretti & Norma Verdolini supervised all phases of the study design and writing of the manuscript.

## References

1. American Psychiatric Association (APA): *Diagnostic and statistical manual of mental disorders: DSM-IV-TR*. American Psychiatric Association Ed, Washington DC, 2000
2. American Psychiatric Association (APA): *Diagnostic and statistical manual of mental disorders (DSM-5) - 5th edn*. American Psychiatric Association Ed, Washington DC, 2013
3. Ballester J, Goldstein T, Goldstein B, Obreja M, Axelson D, Monk K et al: *Is bipolar disorder specifically associated with aggression? Bipolar Disord* 2012; 14:283-90
4. Bega S, Schaffer A, Goldstein B, Levitt A: *Differentiating between Bipolar Disorder types I and II: results from the*

- National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)*. *J Affect Disord* 2012; 138:46–53
5. Bodén R, Brandt L, Kieler H, Andersen M, Reutfors J: Early non-adherence to medication and other risk factors for rehospitalization in schizophrenia and schizoaffective disorder. *Schizophr Res* 2011; 133:36-41
  6. Botha UA, Koen L, Joska JA, Parker JS, Horn N, Hering LM et al: The revolving door phenomenon in psychiatry: Comparing low-frequency and high-frequency users of psychiatric inpatient services in a developing country. *Soc Psychiatry Psychiatr Epidemiol* 2010; 45:461–68
  7. Callaly T, Trauer T, Hyland M, Coombs T, Berk M: An examination of risk factors for readmission to acute adult mental health services within 28 days of discharge in the Australian setting. *Australas Psychiatry* 2011; 19:221–25
  8. Correll CU, Solmi M, Veronese N, Bortolato B, Rosson S, Santonastaso P et al: Prevalence, incidence and mortality from cardiovascular disease in patients with pooled and specific severe mental illness: a large-scale meta-analysis of 3,211,768 patients and 113,383,368 controls. *World Psychiatry* 2017; 16:163–80
  9. Di Lorenzo R, Sagona M, Landi G, Martire L, Piemonte C, Del Giovane C: The revolving door phenomenon in an Italian acute psychiatric ward. *J Nerv Ment Dis* 2012; 204:686–692
  10. Frick U, Frick H, Langguth B, Landgrebe M, Hübner-Liebermann B, Hajak G: The Revolving Door Phenomenon Revisited: Time to Readmission in 17'415 Patients with 37'697 Hospitalisations at a German Psychiatric Hospital. *PLoS One* 2013; 8:e75612
  11. García-Jiménez J, Álvarez-Fernández M, Aguado-Bailón L, Gutiérrez-Rojas L: Epidemiological and clinical variables related with the predominant polarity on bipolar disorder: A systematic review. *Rev Psiquiatr Salud Ment* 2019; 12:52-62
  12. Garrido P, Saraiva CB: Understanding the revolving door syndrome. *Eur Psychiatry* 2012; 27:1, P-601
  13. Hamilton JE, Rhoades H, Galvez J, Allen M, Green C, Aller M et al: Factors differentially associated with early readmission at a university teaching psychiatric hospital. *J Eval Clin Pract* 2015; 21:572-8
  14. Hamilton JE, Passos IC, de Azevedo Cardoso T, Jansen K, Allen M, Begley CE et al: Predictors of psychiatric readmission among patients with bipolar disorder at an academic safety-net hospital. *Aust N Z J Psychiatry* 2016; 50:584-93
  15. Holt RIG, Gossage-Worrall R, Hind D, Bradburn MJ, McCrone P, Morris T et al: Structured lifestyle education for people with schizophrenia, schizoaffective disorder and first-episode psychosis (STEPWISE): randomised controlled trial. *Br J Psychiatry* 2019; 214:63–73
  16. Kim HM, Pfeiffer P, Ganoczy D, Valenstein M: Intensity of outpatient monitoring after discharge and psychiatric rehospitalization of veterans with depression. *Psychiatr Serv* 2011; 62:1346-52
  17. Hamilton JE, Passos IC, de Azevedo Cardoso T, Jansen K, Allen M, Begley CE et al: Predictors of psychiatric readmission among patients with bipolar disorder at an academic safety-net hospital. *Aust N Z J Psychiatry* 2016; 50:584-93
  18. Magalhães PV, Kapczinski F, Nierenberg AA, Deckersbach T, Weisinger D, Dodd S et al: Illness burden and medical comorbidity in the Systematic Treatment Enhancement Program for Bipolar Disorder. *Acta Psychiatrica Scandin* 2012; 125:303–8
  19. McElroy SL & Keck PE: Dysphoric mania, mixed states, and mania with mixed features specifier: are we mixing things up? *CNS Spectr* 2017; 22:170-6
  20. McIntyre RS, Soczynska JK, Cha DS, Woldeyohannes HO, Dale RS, Alsuwaidan MT et al: The prevalence and illness characteristics of DSM-5-defined "mixed feature specifier" in adults with major depressive disorder and bipolar disorder: Results from the International Mood Disorders Collaborative Project. *J Affect Disord* 2015; 172:259-64
  21. Morlino M, Calento A, Schiavone V, Santone G, Picardi A, De Girolamo G: Use of psychiatric inpatient services by heavy users: Findings from a national survey in Italy. *Eur Psychiatry* 2011; 26:252–9
  22. Moss J, Li A, Tobin J, Weinstein IS, Harimoto T, Lanctôt KL: Predictors of readmission to a psychiatry inpatient unit. *Compr Psychiatry* 2014; 55:426–30
  23. Peritogiannis V, Stefanou E, Damigos D, Mavreas V: Admission rates of patients with borderline personality disorder in a psychiatric unit in a General Hospital. *Int J Psychiatry Clin Pract* 2008; 12:78–80
  24. Rosa AR, Andreazza AC, Kunz M, Gomes F, Santin A, Sanchez-Moreno J et al: Predominant polarity in bipolar disorder: diagnostic implications. *J Affect Disord* 2008; 107:45-51
  25. Sampogna G, Fiorillo A, Luciano M, Del Vecchio V, Steardo L, Pocai B et al: A Randomized Controlled Trial on the Efficacy of a Psychosocial Behavioral Intervention to Improve the Lifestyle of Patients With Severe Mental Disorders: Study Protocol. *Front Psychiatry* 2018; 9:235
  26. Schmutte T, Dunn CL, Sledge WH: Predicting time to readmission in patients with recent histories of recurrent psychiatric hospitalization: A matched-control survival analysis. *J Nerv Ment Dis* 2010; 198:860–3
  27. Schoepf D & Heun R: Bipolar disorder and comorbidity: Increased prevalence and increased relevance of comorbidity for hospital-based mortality during a 12.5-year observation period in general hospital admissions. *J Affect Disord* 2014; 169:170–8
  28. Solé E, Garriga M, Valenti M, Vieta E: Mixed features in bipolar disorder. *CNS Spectr* 2017; 22:134-40
  29. Šprah L, Dernovsek MZ, Wahlbeck K, Haaramo P: Psychiatric readmissions and their association with physical comorbidity: a systematic literature review. *BMC Psychiatry* 2017; 17:2
  30. Stahl SM: Mixed-up about how to diagnose and treat mixed features in major depressive episodes. *CNS Spectr* 2017; 22:111-5
  31. Um YH, Kim TW, Seo HJ, Hong SC, Kim SM, Oh JH et al: Predictors of 1-year rehospitalization in inpatients with bipolar I disorder treated with atypical antipsychotics. *Int Clin Psychopharmacol* 2020. 10.1097/YIC.0000000000000318
  32. Verdolini N, Agius M, Ferranti L, Moretti P, Piselli M, Quartesan R: The State of the Art of the DSM-5 "with Mixed Features" Specifier. *Scientific World Journal* 2015; 757-258

33. Verdolini N, Hidalgo-Mazzei D, Murru A, Pacchiarotti I, Samalin L, Young AH et al: Mixed states in bipolar and major depressive disorders: systematic review and quality appraisal of guidelines. *Acta Psychiatr Scand* 2018; 138:196-222
34. Vigod SN, Kurdyak PA, Seitz D, Herrmann N, Fung K, Lin E et al: READMIT: a clinical risk index to predict 30-day readmission after discharge from acute psychiatric units. *J Psychiatr Res* 2015; 61:205-13
35. Webb S, Yáguez L, Langdon PE: Factors associated with multiple re-admission to a psychiatric hospital. *J Ment Heal* 2007; 16:647-61
36. Woo YS, Bahk WM, Jung YE, Jeong JH, Lee HB, Won SH et al: One-year rehospitalization rates of patients with first-episode bipolar mania receiving lithium or valproate and adjunctive atypical antipsychotics. *Psychiatry Clin Neurosci* 2014; 68:418-24

*Correspondence:*

Prof. Alfonso Tortorella, MD, PhD  
Department of Psychiatry, University of Perugia  
Piazzale Lucio Severi, 1, 06132, S. Andrea delle Fratte, Perugia (PG), Italy  
E-mail: [alfonsotortorella@gmail.com](mailto:alfonsotortorella@gmail.com)