ORIGINAL ARTICLE

Self-stigma, treatment adherence, and medication discontinuation in patients with bipolar disorders in remission – a cross sectional study

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Abstract

INTRODUCTION: Self-stigma is a gradual process during which a stigmatized person uncritically accesses and integrates negative societal stereotypes towards persons with mental disorders. It has been repeatedly shown that fear of stigma and self-stigma is associated with lower adherence to various medical procedures.
METHOD: 33 outpatients with bipolar disorder completed The Drug Attitude Inventory-10 items (DAI-10) scale used to estimate adherence to treatment, the Internalized Stigma Mental Inventory scale (ISMI) measuring self-stigma and The Clinical Global Impression (CGI) which assesses current severity of mental disorders. Demographic and clinical data were also obtained.
RESULTS: The level of current adherence to pharmacotherapy positively correlated with age and negatively with self-stigma. Nineteen (57.6%) patients discontinued medication at least once in the past. The patients, who discontinued medication in the past were significantly younger and more often single when compared to the patients who did not discontinue medication. There were no other differences between the groups in the clinical and demographical data. There was also no difference in the level of adherence in patients treated by different drugs.
CONCLUSIONS: More than half of bipolar patients discontinued medication in the past. The risk of the discontinuation of medication is higher in patients who are young and single. The rate of current adherence significantly negatively correlated with self-stigma.

Introduction

Patients with bipolar disorder are often mentioned as a population whose treatment may be less effective due to relatively frequent poor adherence and discontinuation of prescribed medication. One of the impor- tant factors that may significantly affect adherence to treatment is perceived stigmatization and self-stigma. The process of accepting that one has a mental dis- order may be challenging. Psychiatric diagnoses are often disappointing news for patients and their fami- lies (Livingston & Boyd 2010; Mosanya *et al* 2014).

Patients often deny the presence of symptoms and delay seeking psychiatric care for the fear of people´s prejudices and their impact (Camp *et al* 2002; Barney *et al* 2009). Self-stigma is a gradual process during which a person uncritically accepts negative societal prejudices stemming from mental illness stigma and applies them to himself (Lysaker *et al* 2007). Similarly, self-stigma is associated with non-adherence to various medical procedures (Width *et al* 2001; Fung *et al* 2008; Ustündağ & Kesebir 2013). For example, Lysaker with colleagues (2007) found that patients who hold stigmatizing prejudices about themselves tend to disbelieve that their mental condition will improve, are more depressed and have a negative self-concept.

The aim of the present study was to determine the relationship between current adherence, medication discontinuing in the past and self-stigma in stabilized psychiatric outpatients with a diagnosis of bipolar disorder. We expected that (1) degree of non-adherence would be related to demographic data such as age, relationship, family burden and psychiatric education; (2) self-stigma would be associated with adherence to the treatment and discontinuation of medication in the past;(3) patients who had discontinued medication in the past would show poorer treatment adherence and higher level of self-stigma.

Methods

The study was offered to all patients with the diagnosis of bipolar disorder, who came to the ambulance of the Clinic of Psychiatry from 1 July to 30 September 2013 for a regular check up and met the following criteria:

  a. The diagnosis of bipolar disorder according to the criteria of (The International Classification of Diseases – 10 Revision) ICD-10 (World Health Organisation 1992);
  b. Adult age;
  c. Signing of consent form;
  d. Current mental state was stabilized (the patient was able to attend outpatient treatment; his/her condition was unchanged, and he/she did not require hospitalization.

Patients with diagnoses of mental retardation, organic mental disorders, severe physical illnesses and patients with bipolar disorder whose mental state was not stabilized, were not included in the study. The patients attended the outpatient checkups and were treated with standard medication for a bipolar disorder according the guidelines and principles of good clinical practice.

Assessment instruments

Drug Attitude Inventory (DAI-10): The scale includes ten items that evaluate patients´ attitudes to medication. The 10-item scale was derived by factor analysis from the 30-item scale given in the reference. The inventory assesses the current level of adherence (Hogan *et al* 1983).

The Internalized Stigma Of Mental Illness Scale (ISMI): The scale has 29 items that assess five areas of the internalized stigma (Boyd *et al* 2014). Higher score indicates higher level of self-stigmation. The questionnaire was standardized in Czech by Ociskova with colleagues (2014).

Clinical Global Impression (CGI): The scale represents a global assessment of severity of psychopathology (Guy1976). The subjective (CGI-S) and objective (CGI-O) versions were used. The subjective version (CGI-S) uses self-assessment of the patient; each of the severity levels is defined.

Demographic questionnaire: The questionnaire concerns gender, age, employment status, income, education, age of onset, length of attendance at outpatient clinic, hospital admissions, time since last hospitalization, number of visited psychiatrists, current medication and discontinuation of medication in the past (on the recommendation of the psychiatrist or on their own desicion).

Statistical evaluation and ethics

The statistical programs Prism3 and SPSS.17 were used for the statistical calculation. Demographic data and mean total scores of the scales were calculated using descriptive statistics; averages, medians, standard deviations and the character of the data distribution were calculated. The mean scores were compared by using t-tests. The relationships between categories were assessed using correlation coefficients and the linear regression. The relationships between categorical variables (gender, marital status, withdrawal of medication) were calculated by Fisher's test. The study was approved by the local ethics committee. The research was conducted in the accordance with the latest version of the Helsinki Declaration and recommendations for good clinical practice (EMEA2002). All patients signed informed consent.

Results

Sample characteristics

33 patients with bipolar disorder agreed to complete the scales (63.6% were women). Mean age was 38.55 ± 10.98 years. Most patients were married (45.4%). The patients most often achieved a higher education (Table 1). Family psychiatric history was found in 25 patients (75.8 %). 29 patients (88 %) filled in the scales entirely, and four patients did not complete all items, and their data could not be included in the further analyzes.

Therapy

Mood stabilizers were used by 28 patients (84.8%), antidepressants were used by 14 patients (42.4%), anxiolytics by 3 individuals (9.1%) and antipsychotics by 18 patients (54.5%) (Table 1).

Tab. 1. Demographic and clinical characteristics of the patients.

Age	38.55±10.98
Sex (M:F)	21:12
Age of onset of illness	27.73±10.04
Education: Elementary and vocational training / secondary school / university	4 / 13 / 16
Employed / Unemployed	17 / 16
Without the pension / with the disability pension / retired	17 / 13 / 3
Marital status: single / married / divorced / widowed	13 / 15 / 4 / 1
Number of admissions to a psychiatric hospital	4.906±3.847
Number of outpatient psychiatrists during treatment	2.03±1.132
Objective CGI – severity	2.333±1.021
Subjective CGI – severity	2.636±1.342
Family history: other mental disorders / a bipolar disorder	25 (75.8 %) / 5 (15.2 %)
Mood stabilizers: the number of patients / the mean dose-adjusted daily dose of lithium	n=28 / 712.5±243.7
Antidepressants: the number of patients / the mean dose-adjusted daily dose of paroxetine	n=14 / 46.61±38.55
Anxiolytics: the number of patients / the mean dose-adjusted daily dose of the diazepam	n=3 / 16.67±12.58
Antipsychotics: the number of patients / the mean dose-adjusted daily dose of the risperidone	n=18 / 3.149±2.145
Adherence to the medication	4.345±4.002
Discontinuation of medication in the past	19 (57.58%)
ISMI - total score Alienation Stereotype endorsement Perceived discrimination Social withdrawal Resistance to stigma	61.07±13.49 12.45±3.709 13.03±3.30 9.931±2.802 12.62±4.101 13.03±2.784

Tab. 2. Self-stigmatization, adherence and discontinuing of medication related to the heredity, gender, and partnership.

Parameter	Adherence to treatment	Statistics - comparison groups	Medication discontinuation in the past	Statistics - comparison groups
Men Women	3.667 + 4.334 4.824 + 3.813	Unpaired t-test: t=0.7608 df=27; n.s.	50.0% 61.9%	Fisher's exact test: n.s.
without university university-level	2.625 + 4.048 6.462 + 2.847	Unpaired t-test: t=2.883 df=27; *p*<**0.01**	52.9% 62.5%	Fisher's exact test: n.s.
Employed Unemployed	4.267 + 4.334 4.329 + 3.777	Unpaired t-test: t=0.1069 df=27; n.s.	58.8% 56.25%	Fisher's exact test: n.s.
with partner single	5.222 + 3.766 2.909 + 2.134	Unpaired t-test: t=1.547 df=27; n.s.	42.9% 83.3%	Fisher's exact test: *p*<**0.05**
Positive family history Negative family history	5.75 + 4.334 3.81 + 3.842	Unpaired t-test:t=1.175 df=27; n.s.	62.5% 44.0%	Fisher's exact test: n.s

Gender

The average rate of current adherence to treatment was 4.35±4.00 points in DAI-10.There was no statistically significant differences between gender in current adherence to pharmacotherapy (Table 2). Medication was discontinued by one´s own decision in the pas by 57.58% of the patients. The frequencies of the discontinuing of the medication in the past did not differ by tender (Table 2).

Education

Current adherence was significantly higher in the patients with university level education than in other patients (Table 2). The frequency of medication discon-

tinuation in the past did not differ among the patients with different levels of education (Table 2).

Employment
There were statistically significant differences both in current adherence and past medical discontinuation between the employed and unemployed patients (Table 2).

Partner status
There was no statistically significant difference in the current adherence of the patients living with a partner and patients without a partner. However, the patients without a partner discontinued medication in the past significantly more frequently than the patients with a partner (Table 2).

Psychiatric history and treatment adherence
The level of current treatment adherence and the frequency of medication discontinuation in the past did not differ in patients with and without psychiatric heredity (Table 2).

Adherence in patients with and without
a history of medication discontinuation
There was no significant difference in the current adherence to treatment among the patients who discontinued medication in the past, and those who did not (Table 2).

Relationship between current adherence
and quantitative demographic data
Current adherence significantly positively correlated with the patients´ age, age of onset of the disorder, and

negatively correlated with CGI, both objective, and subjective scores. Table 3 presents correlation between DAI-10 and the demographic and clinical data. There were no significant correlations between the number of hospitalizations, number of psychiatrists that the patients worked with in the past, or doses of the medication and current treatment adherence.

Discontinuation of the medication in the past
The patients who discontinued medication in the past were significantly younger and were more often single than the patients who did not discontinue (Table 4). These groups did not differ in the sex ratio, the ratio of university-educated o unemployed and other demographic and clinical variables.

Self-stigma, current adherence and
medication discontinuation in past
There were no statistically significant differences in the ISMI scores and current adherence among the patients, who discontinued medication in the past, and the patients who did not discontinue (Table 4).

Relationship between adherence and self-stigma
The total score of ISMI was significantly negatively correlated with current adherence to the treatment (Table 3, Figure 1). Current adherence correlated negatively with the subscales of the ISMI scale Alienation and Stereotype Endorsement.

DISCUSSION

The study evaluated relations between the self-stigma, current adherence to treatment, medical discontinua-

Tab. 3. Correlation DAI-10 with the demographic and clinical data.

Variable	Statistics
Age	**0.4445** P; p<0.05
Age of onset of illness	**0.4528** P; p<0.05
Number of hospitalization	0.0672 P n.s.
Number of outpatient psychiatrists	0.0081 S; n.s.
Objective CGI-S	**0.4010** P; p<0.05
Subjective CGI-S	**0.4127** P; p<0.05
Adjusted doses of thymostabilisers (n=24)	0.04386 S; n.s.
Adjusted doses of antipsychotics (n=16)	0.0018 P; n.s.
Adjusted doses of antidepressants (n=13)	0.0369 P; n.s.
Adjusted doses of anxiolytics (n=3)	few patients
ISMI – total score	**0.4889** P; p<0.05
Alienation	**0.5694** P; p<0.05
Stereotype endorsement	**0.4153** P; p<0.05
Perceived discrimination	0.3561 P; n.s
Social withdrawal	0.3246 P; n.s
Resistance to stigma	0.3002 P; n.s

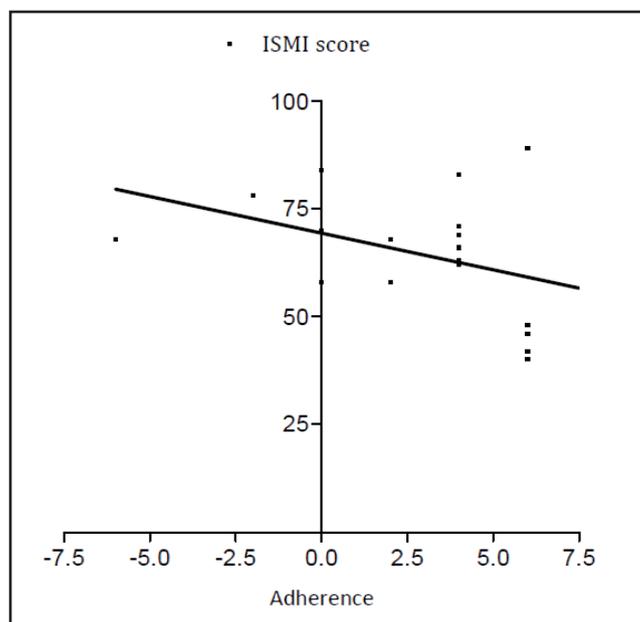P = Pearson r; S = Spearman r; n.s. = not significant

Fig. 1. Relationship between the adherence and the self-stigmatization. Linear regression F=7.223, DFn 1000, DFd 23.00; p<0.05

Tab. 4. Comparison of the patients, who discontinued medication in the past, and those who not.

Parameters	Discontinuing of medication in the past (N=19)	No discontinuation of drug in the past (N=14)	Statistical comparison
Age	35.00±10.19	43.36±10.47	unpaired t-test: t=2.302 df=31 t=2.302 df=31; ***p<0.05***
Age of disorder onset	25.21±9.92	31.14±9.494	unpaired t-test: t=1.729 df=31; n.s.
Gender M:W	6:13	6:8	Fisher´s exact test: n. s.
Education: without university: with university	9:10	8:6	Fisher's exact test: n. s.
Employed: unemployed	10:9	7:7	Fisher's exact test: n. s.
Living with partner / without partner	9:10	12:2	Fisher's exact test: ***p<0.05***
Objective CGI	2.316±1.157	2.357±0.8419	unpaired t-test: t=0.1132 df=31; n.s.
Subjective CGI	2.632±1.422	2.642±1.277	unpaired t-test: t=0.02348 df=31; n.s.
Family history: positive: negative	14:5	11:3	Fisher's exact test: n. s.
Adherence to medication	3.75±4.313	5.077±3.616	unpaired t-test: t=0.8844 df=27; n.s.
ISMI – a total score	61.53±14.22	60.42±12.98	unpaired t-test t=0.2150 df=27; n.s.

tion and demographic and clinical data in the past in patients suffering from bipolar disorder. The results indicated that gender, employment, partnership, and heredity did not play a significant role in the current adherence in this group of patients. However, the patients with the university level of education had higher adherence to the treatment than the patients with lower education. Similarly, Grilo *et al* (1998) found a significant impact of education on medication adherence in patients with panic disorder. Santana and colleagues (2010) found that patients with obsessive-compulsive disorder who had lower education remained longer in the treatment. Matas and colleagues (1992) found better adherence in psychiatric patients living with a partner. This was not confirmed in our study. The difference may be due to different numbers and characteristics of the participating patients. Matas *et al* (1992) included patients with schizophrenia, while our study was focused on the patients with bipolar disorder. However, we found that the patients are living with a partner discontinued medication less often than singles. Nevertheless, there was no impact of partnership on current treatment adherence. We found that the patients who previously discontinued medication were significantly younger than the patients who had not discontinued medication in the past. The frequency of medication discontinuation in the past was the same in women and men. This result is in accordance with the outcome of another study on this topic (Bulloch & Patten 2010).

The most important result of our study is probably the confirmation of the hypothesis that the current treatment adherence is negatively connected with self-stigma. This finding is consistent with the outcome of the study of Sirey and colleagues (2001) who examined adherence to antidepressants in depressive patients and found that predictors of adherence were lower

perceived stigma and self-stigma. Similar results were found in a group of schizophrenic patients (Vrbova *et al* 2014), patients with anxiety disorders (Cinculova *et al*, in press), as well as in patients with other diagnostic subgroups (Kamaradova *et al*, in press).

One of the limitations of the present study is that the scales were self-administered. Over 12.1% of the patients did not complete the scales fully. This could have been the subgroup of the patients who have significant problems with the adherence. An important limitation of the study is also the small number of the patients participating in the study. The results are cross-sectional and cannot capture the dynamics of the possible changes in the mental status. There is also no information about the stability of the adherence to the time. Furthermore, the DAI-10 provides only an indirect estimate of adherence with limited validity (Hogan *et al* 1983). Established measurements of adherence by pill count, plasma levels, or direct observation of pill ingestion were not conducted.

Conclusion

Self-stigma could be an important factor influencing the treatment adherence. If these results are confirmed by further studies with a larger number of the patients with bipolar disorder, it will be useful to use psychoeducational or psychotherapeutic strategies to decrease self-stigma, and thus to increase treatment adherence.

REFERENCES

1 Barney LJ, Griffiths KM, Christensen H, Jorm AF (2009) Exploring the nature of stigmatizing beliefs about depression and help-seeking: implications for reducing stigma. *BMC Public Health*. **9**: 61.

2 Boyd JE, Adler EP, Otilingam PG, Peters T (2014) Internalized Stigma of Mental Illness (ISMI) Scale: A multinational review. *Compr Psychiatry*. **55**(1): 221–231.

3 Bulloch AGM & Patten SB (2010) Non-adherence with psychotropic medications in the general population. *Soc Psychiatry Psychiatr Epidemiol*. **45**(1): 47–56.

4 Camp DL, Finlay WML, Lyons E (2002) Is low self-esteem an inevitable consequence of stigma? An example of women with chronic mental health problems. *Social Science & Medicine*. **55**: 823–834.

5 Cinculová A, Kamarádová D, Ocisková M, Praško J, Látalová K, Vrbová K, *et al* Adherence, self-stigma and discontinuation of pharmacotherapy in patients with anxiety disorders – cross-sectional study. *Neuroendocrinol Lett*, in press.

6 EMEA (2002) http://www.ema.europa.eu/pdfs/human/ich/013595en.pdf. 20.3.2009.

7 Fung KMT, Tsang HWH, Corrigan PW (2008) Self-stigma of people with schizophrenia as predictor of their adherence to psychosocial treatment. *Psychiatr Rehabil J*. **32**: 485–495.

8 Grilo CM, Money R, Barlow DH, Goddard AW, Gorman JM, Hofmann SG, *et al* (1998) Pretreatment patient factors predicting attrition from a multicenter randomized controlled treatment study of panic disorder. *Compr Psychiatry*. **39**(6): 323–332.

9 Guy W, editor (1976) ECDEU Assessment manual for psychopharmacology. Rockville, U.S. DHEW.

10 Hogan TP, Awad AG, Eastwood R (1983) A self-report scale predictive of drug compliance in schizophrenics: reliability and discriminative validity. *Psychol Med*. **13**: 177–183.

11 Kamarádová D, Látalová K, Praško J, Cinculová A, Kubínek R, Mainerová B, *et al* Sebestigmatizace, adherence k léčbě a vysazování medikace u psychických poruch – průřezová studie. *Česká a Slovenská Psychiatrie*, in press.

12 Livingston JD & Boyd JE (2010) Correlates and consequences of internalized stigma for people living with mental illness: A systematic review and meta-analysis. *Social Science & Medicine*. **71**: 2150–2161.

13 Lysaker PH, Roe D, Yanos PT (2007) Toward understanding the insight paradox: Internalized stigma moderates the association between insight and social functioning, hope, and self-esteem among people with schizophrenia spectrum disorders. *Schizophr Bull*. **33**(1): 192–199.

14 Matas M, Staley D, Griffin W (1992) A profile of the noncompliant patient: a thirty-month review of outpatient psychiatry referrals. *Gen Hosp Psychiatry*. **14**: 124–130.

15 Mezinárodní klasifikace nemocí – 10. revize, MKN-10 (1. vydání); Maxdorf Praha; 1996.

16 Ocisková M, Praško J, Kamarádová D, Látalová K, Pavel Kurfürst, Dostálová J, *et al* (2014) Self-stigma in psychiatric patients – standardization of the ISMI scale: *Neuroendocrinol Lett*. **35**(7): 624–632.

17 Padurariu M, Ciobica A, Persson C, Stefanescu C (2011) Self-Stigma in psychiatry: ethical and bio-psycho-social perspectives. *Romanian Journal of Bioethics*. **9**(1): 76–82.

18 Santana L, Versiani M, Mendlowicz MV, Fontenelle LF (2010) Predictors of adherence among patients with obsessive-compulsive disorder undergoing naturalistic pharmacotherapy. *J Clin Psychopharmacol*. **30**(1): 86–88.

19 Sirey JA, Bruce ML, Alexopoulos GS, Perlick DA, Raue P, Friedman SJ, Meyers BS (2001) Perceived stigma as a predictor of treatment discontinuation in young and older outpatients with depression. *Am J Psychiatry*. **158**: 479–481.

20 Mosanya TJ, Adelufosi AO, Adebowale OT, Ogunwale A, Adebayo OK (2014) Self-stigma, quality of life and schizophrenia: An outpatient clinic survey in Nigeria. *Int J Soc Psychiatry*. **60**(4): 377–386.

21 Tsang HW, Fung KM, Chung RC (2010) Self-stigma and stages of change as predictors of treatment adherence of individuals with schizophrenia. *Psychiatry Res*. **180**(1): 10–15.

22 Ustündağ MF & Kesebir S (2013) Internalized stigmatization in bipolar patients: relationship with clinical properties, quality of life and treatment compliance. *Turk Psikiyatr i Derg*. **24**(4): 231–239.

23 Vrbová K, Kamarádová D, Látalová K, Ocisková M, Praško J, Mainerová B, *et al* (2014) Self-stigma and adherence to medication in patients with psychotic disorders – cross-sectional study. *Neuroendocrinol Lett*. **35**(7): 645–652.

24 World Health Organisation (WHO) (1992) ICD-10: The ICD-10 Classification of Mental and Behavioural Disorders: Clinical Descriptions and Diagnostic Guidelines, Word Health Organisation (WHO), Geneva.