

Does Recovery from Substance Use Disorders among Patients with Bipolar Disorder Predict Improved Medication Taking Behaviors and Drug Attitudes?

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Background

- ❖ High rates of medication nonadherence are found among patients with bipolar disorder (BD) and patients with BD and a co-occurring substance use disorder (SUD) are particularly at risk for medication nonadherence (*Keck et al, 1997; Weiss et al, 1998*).
- Interestingly, the exact reasons explaining this well-established finding remain unknown.
- ❖ Only recently have studies begun to consider patients with BD and a past history of SUD (BD-PH) and those with a current history of SUD (BD-CH) separately within the same sample. A study using data from the first 1000 patients enrolled in the Systematic Treatment Enhancement Program for Bipolar Disorder (STEP-BD) demonstrated that BD-PH was associated with significantly better role functioning compared to BD-CH and that BD-PH role functioning was similar to those with no SUD history (Non-SUD; *Weiss et al, 2005*).
- Role functioning was measured using Longitudinal Interval Follow-Up Evaluation-Range of Impaired Functioning Tool (LIFE-RIFT; *Leon et al, 2000*), a clinician-administered interview to assess impairment in work, recreation, interpersonal relations, and global satisfaction.

Objectives

- ❖ We conducted a naturalistic study to determine whether there are similar patterns among Non-SUD, BD-PH and BD-CH with regards to medication taking behaviors while hospitalized, drug attitudes, and beliefs towards psychiatric medications.

Methods

- ❖ Face-to-face interviews were conducted with patients admitted for acute hospitalization to the Schizophrenia and Bipolar Disorder Program at McLean Hospital, Belmont, MA.
- ❖ Structured Clinical Interview for DSM-IV (SCID-IV) was used to confirm diagnosis of bipolar I disorder and substance use disorders.
- ❖ Rating scales [Young Mania Rating Scale (YMRS), Montgomery-Asberg Depression Rating Scale (MADRS), and the Positive and Negative Syndrome Scale (PANSS)] were administered to assess clinical severity during each patient's hospitalization.
- ❖ The 10-item Drug Attitude Inventory (DAI-10; *Hogan & Awad, 2000*) was administered to assess patient attitudes and beliefs towards their medications being used to treat bipolar disorder.
- ❖ Medication taking behaviors were recorded for the first seven days of each patient's hospitalization, including both the medication prescribed and the medication taken by each patient.
- ❖ Primary outcome: standardized ratio of medication taken/medication prescribed (standardized medication adherence rate; SMAR).
- ❖ Secondary outcomes:
 - DAI-10 score (range -10 to +10); reasons for medication nonadherence
- ❖ Statistical analyses: Student t-tests; One way analysis of variance with post hoc Tukey HSD; Chi-square analyses; Effect size [95% confidence interval]

Results

Table 1. Patients with Bipolar I Disorder^a

	Non-SUD (n=26)	Past SUD (n=19)	Current SUD (n=9)
<u>Age</u>			
Years	38.23 ± 14.0	40.7 ± 13.4	30.0 ± 9.4
<u>Gender</u>			
Female	16 (61.5%)	9 (47.4%)	2 (22.8%)
Male	10 (38.5%)	10 (52.6%)	7 (77.8%)
<u>Race/Ethnicity</u>			
White	20 (76.9%)	16 (84.2%)	9 (100.0%)
Non-White	5 (19.2%)	2 (10.5%)	0 (0.0%)
<u>Marital Status</u>			
Married	7 (26.9%)	5 (26.3)	0 (0.0%)
Non-Married	17 (65.4%)	12 (63.2%)	8 (88.9%)
<u>Symptom Rating Scales</u>			
YMRS ^b	24.8 ± 13.2	24.8 ± 11.7	36.8 ± 8.4
MADRS	17.2 ± 12.4	18.1 ± 9.7	11.8 ± 4.1
PANSS	64.7 ± 18.7	64.9 ± 11.9	67.9 ± 11.9

(a) Percentages do not equal 100% due to missing data or 'other' categories.

(b) Patients with current SUD reported higher YMRS scores as compared to both Non-SUD and Past SUD patients (Tukey HSD; $p < 0.05$).

Standardized Medication Adherence Rates (SMAR) among Patients with BD and Various SUD Histories

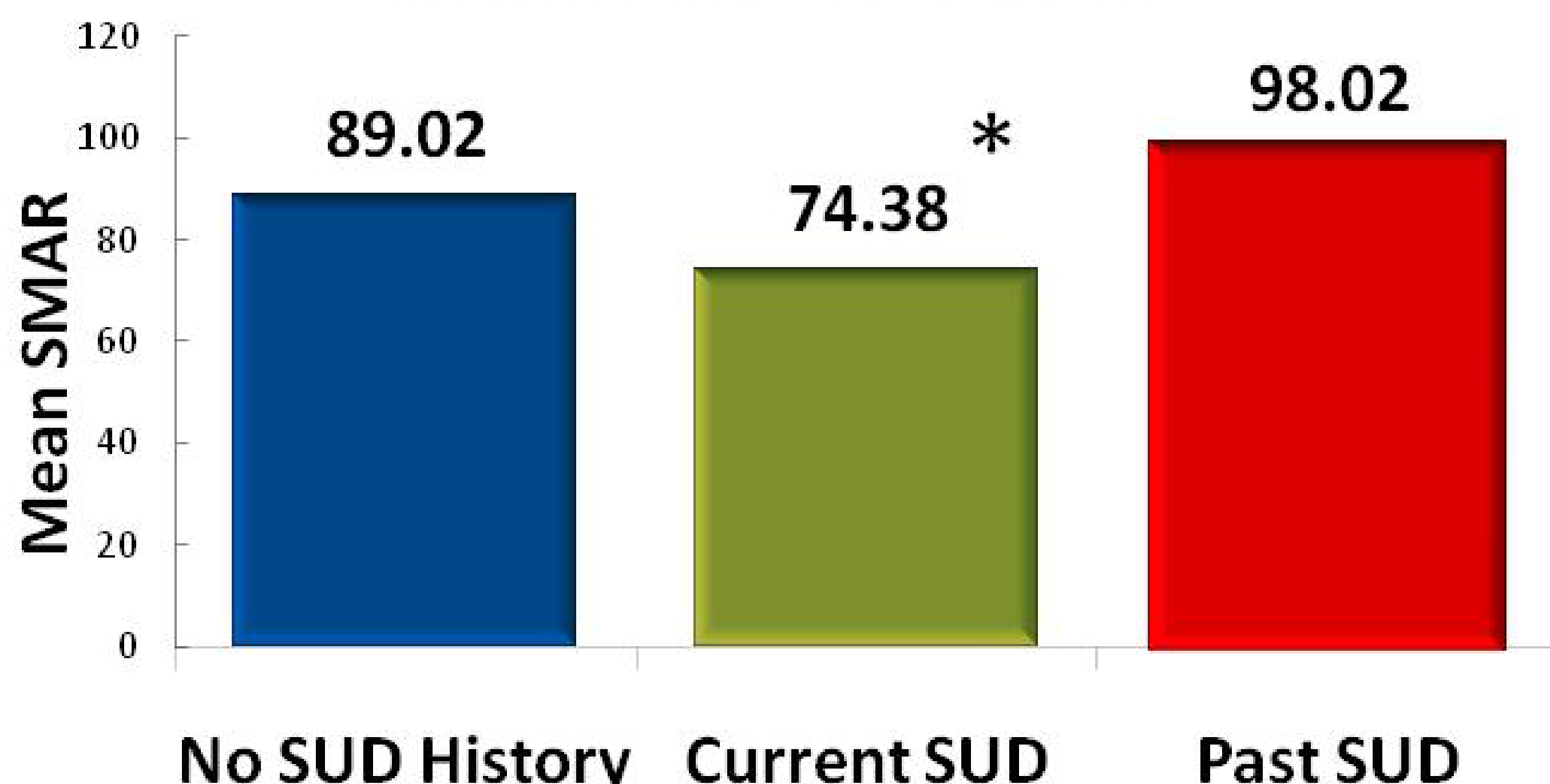


Figure 1. BD-CH demonstrated statistically significantly lower SMAR as compared to the other two patient subgroups. There were no statistically significant differences in SMAR between patients with no SUD history and those with a past SUD history.

- ❖ Fifty-four patients completed the face-to-face interviews and received a diagnosis of BD according to the SCID
- ❖ As shown in Table 1, baseline characteristics were similar between the three sub-groups of patients, with the exception of YMRS scores:
 - Patients with a current SUD reported greater mania symptom severity according to the YMRS
 - No difference in YMRS scores were found between non-SUD patients and past SUD patients
- ❖ **PRIMARY OUTCOME:**
 - **SMAR:** mean SMAR for the entire sample was 89.75 ± 17.23 and was significantly lower among patients with BD-CH (74.38 ± 11.9) as compared to those with no history of SUD (89.02 ± 20.1) or BD-PH (98.02 ± 5.1) [**$F=7.132$, $df=2$, $p < 0.01$**]
 - As can be seen in Figure 1, post-hoc analysis for multiple comparisons revealed that patients with BD-CH demonstrated significantly lower rates of medication adherence compared to BD-PH (**Tukey HSD; $p < 0.01$**) and to patients with no history of SUD (**Tukey HSD; $p < 0.05$**)
 - Effect size (standardized mean difference) = **3.2 [95% CI: 2.04, 4.36]**
- ❖ **SECONDARY OUTCOMES:**
 - **DAI-10 scores:** significantly higher proportion of patients with BD-CH (62.5%) reported negative DAI-10 scores compared to no history of SUD (37.5%) and BD-PH (11.1%) [**$p < 0.05$**]
 - **Reasons:** primary reasons for lifetime medication nonadherence among these patients (regardless of SUD subgroup) were medication “*side effects*” (64.8%) and “*did not need*” medications for bipolar disorder (50%)

Conclusions

- ❖ Results of the present study indicate that patients with bipolar disorder and a past history of substance use disorder (i.e., *patients in recovery*) are doing very well regarding medication taking behaviors.
- ❖ Furthermore, these patients in recovery appear to have a much more positive attitude towards their psychiatric medications.
- ❖ Our findings are consistent with previous work that demonstrated improved functional outcomes among patients with bipolar disorder who were in recovery from a substance use disorder (*Weiss et al, 2005*).
- ❖ Taken together, these data suggest that assisting patients with bipolar disorder towards recovery from substance use may help improve medication taking behaviors and attitudes, as well as help with functioning in other areas of life such as work or interpersonal relations.
- ❖ Further research is needed to fully explore reasons that explain what specific feature of recovery is helping patients function in other areas of their lives.
- ❖ As a group, patients with bipolar disorder continue to report that they do not need medication for bipolar disorder and this is a serious challenge for clinicians and researchers to overcome in the future.

Limitations

- ❖ Our small sample size (especially in the subset of patients with a current substance use disorder) may limit our power to detect statistically significant differences between all three comparison groups.
- ❖ The DAI-10 has not undergone formal psychometric analyses in patients with bipolar disorder or substance use disorders.

References

1. Hogan TP, Awad AG. *Drug Attitude Inventory*. In: Rush AJ. *Handbook of psychiatric measures*, 2000. Arlington, VA: American Psychiatric Association.
2. Keck PE Jr, McElroy SL, Strakowski SM, Bourne ML, West SA. Compliance with maintenance treatment in bipolar disorder. *Psychopharmacol Bull* 1997; 33:87-91.
3. Leon AC, Solomon DA, Mueller TI, Endicott J, Posternak M, Judd LL, Schettler PJ, Akiskal HS, Keller MB. A brief assessment of psychosocial functioning of subjects with bipolar I disorder: the LIFE-RIFT. *Longitudinal Interval Follow-up Evaluation-Range Impaired Functioning Tool*. *J Nerv Ment Dis* 2000; 188:805-812.
4. Weiss RD, Greenfield SF, Najavits LM, Soto JA, Wyner D, Tohen M, Griffin ML. Medication compliance among patients with bipolar disorder and substance use disorder. *J Clin Psychiatry* 1998; 59:172-174.
5. Weiss RD, Ostacher MJ, Otto MW, Calabrese JR, Fossey M, Wisniewski SR, Bowden CL, Nierenberg AA, Pollack MH, Salloum IM, Simon NM, Thase ME, Sachs GS; for STEP-BD Investigators. Does recovery from substance use disorder matter in patients with bipolar disorder? *J Clin Psychiatry* 2005; 66:730-735.

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