The Impact of Attempted Suicide on the Symptoms and Course of Mood Disorders

Kaoru Sakamoto, M.D., Ph.D., and Takako Fukunaga, M.D., Ph.D.

Background: Case-controlled studies have produced conflicting results on the relief of depression following attempted suicide. This study examined the impact of attempted suicide on the symptoms and course of mood disorders.

Method: Of 2800 inpatients reviewed retrospectively, 40 depressed patients who had attempted suicide immediately before admission and 40 depressed but nonsuicidal control patients satisfied entry criteria for the study. The overall severity of their depression had been rated by the treating psychiatrists before the attempted suicide or at admission using the DSM-III-R (or DSM-IV) severity scale. The severity of depression at 1 week after admission was evaluated by reviewing medical records. For categorical analysis, improvement was defined as a reduction of one or more categories on the DSM-III-R (or DSM-IV) severity scale. We assigned scores of 1–6 to this scale to enable quantitative comparisons.

Results: Both categorical and dimensional analyses demonstrated that depression was significantly ($p < .05$) more likely to improve within 1 week of admission among suicidal unipolar patients than among nonsuicidal unipolar patients. Logistic regression analyses revealed that a unipolar course was significantly ($p = .023$) associated with the improvement of depression. Of the 15 patients showing postsuicidal improvement of depression, 5 (33%) relapsed within 1 month. No significant predictors of their relapses were detected. Of 7 patients with postsuicidal manic switching, 4 (57%) experienced a switch-down into depression.

Conclusion: This study suggests that unipolar depression is significantly improved after attempted suicide, but also that depressed patients showing postsuicidal improvement or manic switching are likely to undergo relapse or switch-down into depression within a short period.

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Corresponding author and reprints: Kaoru Sakamoto, M.D., Ph.D., Department of Psychiatry, Tokyo Women's Medical University School of Medicine, Kawada-cho 8-1, Shinjuku-ku, Tokyo 162-8666, Japan (e-mail: mailto:ksakamoto@psy.twmu.ac.jp).

Several empirical studies have indicated that depressed patients experience significant relief of their depressive symptoms soon after a suicide attempt.[1–9] Indeed, van Praag and Plutchik[4] reported that within a few days of hospitalization, depression was improved to a significantly greater extent in suicidal inpatients than in a control group of depressed but nonsuicidal inpatients. However, these findings remain controversial since other investigators[10] have been unable to replicate them, and, to our knowledge, these 2 studies are the only ones that have used a case-control design to compare the symptom changes in depression occurring within a few days of hospitalization in patients who attempted suicide and in those who did not. Moreover, although several case reports[6,8,9] have suggested that patients whose depression improves after a suicide attempt may relapse several weeks later, the risk of relapse has not been investigated in a large sample.

The aims of this study were therefore as follows: (1) to determine whether depressed patients who attempt suicide are more likely to show a subsequent improvement in their depression over a short period after admission than those who do not attempt suicide, (2) to examine any associations between relevant independent demographic and clinical variables and changes in depressive symptoms after a suicide attempt, and (3) to determine whether patients whose depression decreases in severity after a suicide attempt are liable to relapse within a few weeks of hospital admission.

METHOD

We reviewed all 2800 consecutive inpatients treated at the Psychiatric Department of Tokyo Women's Medical University (TWMU) Hospital, Tokyo, Japan, between 1987 and 1996. Our psychiatric department contains both outpatient and inpatient clinics: about 250 patients attend the outpatient clinic every day, and the inpatient clinic has 120 beds. The mean duration of hospitalization is approximately 90 days. Our clinics are characterized by a continuous treatment policy under which an individual patient is treated by the same group of psychiatrists throughout both outpatient and inpatient care. At the TWMU Hospital all inpatients and outpatients are followed by consultant and/or senior psychiatrists and/or

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psychiatry residents, so the information contained in patient medical charts is quite detailed.

Patients were included in the present study if (1) they had been interviewed in a semistructured manner, based on the Structured Clinical Interview for DSM-III-R (SCID-P),[11] and unequivocally met the DSM-III-R criteria for a major depressive episode; (2) they had attended our outpatient clinic less than 1 week before the index suicide attempt, and the overall severity of their depression had been rated by the treating psychiatrists using the DSM-III-R severity scale (or DSM-IV severity scale for patients who were admitted to our inpatient clinic after 1994) (i.e., severe with psychotic features, severe without psychotic features, moderate, mild, partial remission, or remission; presuicidal baseline severity of depression); (3) they had been admitted to our inpatient clinic immediately after a suicide attempt; and (4) they had thereafter received inpatient or a combination of inpatient and outpatient treatment for at least 3 months at our clinics. We then excluded patients whose medical records were judged to contain insufficient information on their symptomatology to produce an accurate DSM-III-R (or DSM-IV) severity rating. In this study a suicide attempt was defined as a self-destructive act with some degree of intent to end one's life.

Of the 2800 consecutive inpatients, 40 satisfied the inclusion and exclusion criteria. In 24 of these patients, the depression was following a unipolar course at the time of the index suicide attempt, while in 16 it was following a bipolar course (defined as the baseline polarity).

The clinical-course-matched control group comprised 40 patients (24 with unipolar and 16 with bipolar depression at baseline) who also fulfilled the above-mentioned inclusion and exclusion criteria, except that they had been admitted to our inpatient clinic for reasons not connected with a suicide attempt between 1994 and 1996. The overall severity of depression in these nonsuicidal patients had been rated by the treating psychiatrists at admission using the DSM-IV severity scale.

The overall severity of depression at 1 week after admission was retrospectively evaluated by reviewing each patient's medical chart using the DSM-III-R severity scale (or DSM-IV severity scale for patients who were admitted to our inpatient clinic after 1994). The reviewer (T.F.) remained unaware of whether the patient was in the suicidal or nonsuicidal group. The interval of 1 week was chosen according to the recommendations of Davis,[7] who considered this the optimal period for observing the naturalistic history of depression following an attempted suicide.

Furthermore, the course of depressive illness in the suicidal patients and nonsuicidal control patients who experienced a decrease in their depression within 1 week of admission was retrospectively followed up and evaluated for at least 3 months after admission by reviewing inpatient and outpatient medical charts. For these chart reviews, follow-up information was corroborated with the treating psychiatrist.

Statistical Analysis

Differences between the suicidal group and nonsuicidal control group in demographic and clinical variables were compared by means of unpaired t test or Mann-Whitney U test for continuous variables and by the chi-square test for categorized variables.

For categorical analysis, improvement or deterioration was defined as a reduction or increase of 1 or more categories on the DSM-III-R (or DSM-IV) severity scale, and comparisons between dichotomous groups were performed using the chi-square test or Fisher exact test as deemed appropriate.

For quantitative comparison between 2 groups of suicidal and nonsuicidal control patients with regard to severity of depressive illness, we assigned scores to the DSM-III-R severity scale ranging from 1 to 6 as follows: 1 = remission, 2 = partial remission, 3 = mild, 4 = moderate, 5 = severe without psychotic features, and 6 = severe with psychotic features. The Mann-Whitney U test (for comparisons of severity scores between groups) and Wilcoxon signed-rank test (for comparisons of severity scores within a group) were used for data analysis. We evaluated mean scores of depression severity in all subjects at baseline (defined as the baseline total); however, at week 1 we calculated mean severity scores after excluding the patients who exhibited (hypo)manic switching. Thus, to assess changes in severity scores from baseline to week 1, we also evaluated mean baseline severity scores of the patients without (hypo)manic switching. We defined these mean scores as "baseline minus."

We conducted multiple logistic regression analyses in the group of suicidal patients to examine any associations between relevant independent demographic and clinical variables and improvement of the depressive symptoms after the suicide attempt. The following factors were introduced as independent variables: gender, age at the first affective episode, age at the index hospitalization, the polarity of illness course at the time of index suicide attempt (baseline polarity; unipolar vs. bipolar), the presuicidal baseline severity of depression (severe vs. moderate according to the DSM-III-R criteria), presence of melancholic features as described in the DSM-III-R criteria, the method of suicide attempted (classified by the level of violence according to Tanskanen et al.[12]: violent methods included hanging, strangulation, firearms, cutting instruments, and jumping from a high place; nonviolent methods included drug overdose, poisoning with gases, and drowning), loss of consciousness associated with the index suicide attempt, suicide attempt by antidepressant overdose, antidepressant treatment within 1 week of admission, and treatment with neuroleptics such as levomepromazine. We obtained data on these variables from the medical chart review.

Table 1. Sample Characteristics

Characteristic	Suicidal Group (N = 40)	Nonsuicidal Control Group (N = 40)	Analysis
Age, mean (SD), y	39.48 (13.35)	42.53 (13.04)	t = 1.03, df = 78, p = .31
Age at onset of illness, mean (SD), y	31.05 (12.25)	30.45 (11.10)	t = –0.23, df = 78, p = .82
Gender, N (%)			χ^2 = 1.85, df = 1, p =. 17
Female	20 (50.0)	26 (65.0)	
Male	20 (50.0)	14 (35.0)	
Baseline polarity, N (%)			χ^2 = 0, df = 2, p = 1.0
Unipolar	24 (60.0)	24 (60.0)	
Bipolar I	12 (30.0)	12 (30.0)	
Bipolar II	4 (10.0)	4 (10.0)	
With melancholic features, N (%)	30 (75.0)	30 (75.0)	χ^2 = 0, df = 1, p = 1.0
Baseline DSM-III-R severity scores,[a] mean (SD)	4.50 (0.68)	4.35 (0.58)	Mann-Whitney U = 686, z = –1.09, p = .27

[a]DSM-III-R severity scores: 1 = remission, 2 = partial remission, 3 = mild, 4 = moderate, 5 = severe without psychotic features, 6 = severe with psychotic features.

A 2-tailed alpha level of .05 was used in all statistical tests. All statistical analyses were carried out using standard software (Statistical Package for the Social Sciences, V 9.0; SPSS, Chicago, Ill.).

RESULTS

Demographic and Clinical Comparisons Between Groups

The demographic and clinical features of the suicidal group at the time of the index suicide attempt and the nonsuicidal control group at the time of admission are compared in Table 1. The suicidal and nonsuicidal groups did not differ significantly in background characteristics such as age at onset of illness, age at the index admission, gender, baseline polarity, presence of melancholic features, and baseline overall severity scores, thereby suggesting comparability between the 2 groups.

Categorical Comparison Within and Between Groups

Of the 40 suicidal patients, 22 (55%) showed a change in their depressive symptomatology within 1 week of hospitalization due to the attempted suicide; the remaining 18 (45%) did not. Among the 22 patients with a symptom change, 15 (37.5%) showed an improvement in their depression, while 7 (17.5%) showed a switch from depression to hypomania (N = 6) or mania (N = 1). No patients experienced deterioration in their depression after attempting suicide.

The improvement rate in the group of depressive patients who had attempted suicide was significantly higher than that in the group who had not made a suicide attempt (37.5% [15/40] vs. 17.5% [7/40]; Fisher exact test, p = .039).

No significant difference in the rates of (hypo)manic switching was observed between the suicidal group and the nonsuicidal control group (17.5% [7/40] vs. 7.5% [3/40]; Fisher exact test, p = .311).

There was no significant difference in improvement rates between the suicidal patients with and without melancholic features (40.0% [12/30] vs. 30.0% [3/10]; Fisher exact test, p = .715), and between the nonsuicidal control patients with and without melancholic features (13.3% [4/30] vs. 30% [3/10]; Fisher exact test, p = .338).

Separate analyses of the unipolar and bipolar patients revealed that, in the group with unipolar depression, the improvement rate among patients who had attempted suicide was significantly higher than that among those who had not (50.0% [12/24] vs. 20.8% [5/24]; Fisher exact test, p = .034). In contrast, no significant difference in improvement rates was found between the patients with bipolar depression who had and had not made a suicide attempt (18.8% [3/16] vs. 12.5% [2/16]; Fisher exact test, p = .500).

Comparison of Severity of Illness and Improvement Within and Between Groups After Stratification According to Unipolar and Bipolar Characteristics

Both suicidal and nonsuicidal unipolar patients were significantly less severely ill at week 1 than at "baseline minus" (for suicidal group [N = 21], Wilcoxon z = –3.274, p = .0011; for nonsuicidal group [N = 23], Wilcoxon z = –2.121, p = .034). Table 2 shows that when changes in severity scores from "baseline minus" to week 1 were compared between the 2 groups of unipolar patients, suicidal unipolar patients showed significantly (p = .025) more improvement than nonsuicidal unipolar patients.

No significant differences were seen between the severity scores of "baseline minus" and week 1 in both suicidal and nonsuicidal bipolar patients (for suicidal group [N = 12], Wilcoxon z = –1.60, p = .11; for nonsuicidal group [N = 14], Wilcoxon z = –1.34, p = .18). Table 3 indicates that while nonsuicidal bipolar patients were significantly (p = .042) less severely ill than suicidal bipolar patients at "baseline minus," no significant difference was found between both groups in terms of changes in severity scores from "baseline minus" to week 1.

Outcome Predictors

As shown in Table 4, the first multiple logistic regression analysis revealed that, of all the factors considered,

Table 2. Comparison of DSM-III-R Severity Rating Scores Between Groups of Unipolar Patients (N = 48)

	Suicidal Unipolar Group (N = 24)		Nonsuicidal Unipolar Control Group (N = 24)		Analysis		
					Mann-Whitney		
DSM-III-R Severity Scores[a]	Mean	SD	Mean	SD	U	Z	p Value
Baseline total	4.54	0.59	4.50	0.59	288	–0.01	.99
Baseline minus[b]	4.57	0.60	4.48	0.59	220	–0.27	.79
Week 1[b]	3.86	0.91	4.17	0.98	185	–1.34	.18
Change from baseline minus to week 1	0.71	0.78	0.30	0.70	158	–2.29	.025

[a]DSM-III-R severity scores: 1 = remission, 2 = partial remission, 3 = mild, 4 = moderate, 5 = severe without psychotic features, 6 = severe with psychotic features.
[b]Calculated after patients who showed (hypo)manic switching were excluded: suicidal group (N = 21), nonsuicidal group (N = 23).

Table 3. Comparison of DSM-III-R Severity Rating Scores Between Groups of Bipolar Patients (N = 32)

	Suicidal Bipolar Group (N = 16)		Nonsuicidal Bipolar Control Group (N = 16)		Analysis		
					Mann-Whitney		
DSM-III-R Severity Scores[a]	Mean	SD	Mean	SD	U	Z	p Value
Baseline total	4.40	0.83	4.13	0.50	84	–1.68	.094
Baseline minus[b]	4.58	0.90	4.17	1.12	45	–2.03	.042
Week 1[b]	4.17	1.12	3.93	1.00	65	–0.98	.32
Change from baseline minus to week 1	0.42	0.90	0.29	0.83	76	–0.44	.66

[a]DSM-III-R severity scores: 1 = remission, 2 = partial remission, 3 = mild, 4 = moderate, 5 = severe without psychotic features, 6 = severe with psychotic features.
[b]Calculated after patients who showed (hypo)manic switching were excluded: suicidal group (N = 12), nonsuicidal group (N = 14).

Table 4. Logistic Regression Model Relating Relevant Demographic and Clinical Variables to Improvement in Depression

	Improvement of Depression			
Variable	b	OR	(95% CI)	p Value
Gender: male	0.71	2.10	(0.39 to 11.40)	.39
Age at onset, y	0.02	1.02	(0.90 to 1.14)	.80
Age at admission, y	0.02	1.02	(0.92 to 1.12)	.75
Baseline polarity: unipolar	2.47	11.86	(1.40 to 80.59)	.023
With melancholic features	–0.77	0.46	(0.05 to 4.02)	.49
Baseline severity of depression: severe	0.99	2.69	(0.47 to 15.28)	.27
Method of suicide attempted: violent	–0.35	0.71	(0.08 to 5.93)	.75
Loss of consciousness	1.20	3.31	(0.40 to 27.26)	.26
Overdose of antidepressant	–0.19	0.83	(0.08 to 8.37)	.87
Antidepressant treatment within 1 week of admission	1.30	3.66	(0.51 to 26.47)	.20
Treatment with neuroleptics within 1 week of admission	1.46	4.29	(0.45 to 41.03)	.21

Abbreviations: CI = confidence interval, OR = odds ratio.

only the baseline polarity of unipolar course showed significant (p = .023) prognostic value in relation to the improvement of depression at week 1.

Follow-Up Data

Of the 15 patients whose depression improved soon after their suicide attempt, 5 (33.3%) relapsed within 1 month of hospital admission and the mean interval between admission and relapse was 18.4 days (SD = 10.10; range, 8–30 days) (relapse was defined as an increase of 1 or more categories on the DSM-III-R or DSM-IV severity scale). Of these 15 patients, 8 (53.3%) relapsed within 3 months and the mean interval between admission and relapse was 39.8 days (SD = 31.85; range, 8–90 days). Four of the 8 patients who relapsed within 3 months experienced their relapse immediately after discharge from our inpatient clinic; the discharges of another 3 were postponed because of the relapse, and depression relapsed in the remaining patient due to an adverse life event after discharge.

Table 5 shows that no significant differences were detected in any of the variables considered between the improved suicidal patients with and without relapse of depression within 1 month of admission.

The mean duration of (hypo)manic episodes of the 7 patients who showed a switch from depression to (hypo)mania soon after the suicide attempt was 29.6 days (SD = 28.5; range, 8–90 days). Of these patients, 4 (57.1%) experienced a switch-down into depression, of whom all expressed suicidal ideation, and 2 completed suicide several years later as a consequence of their illness. No other subjects committed suicide during our further follow-up periods (mean = 3.5 years, SD = 2.7; range, 0–13 years).

DISCUSSION

The main findings of the present study were that depression was significantly more likely to improve within 1 week of admission among suicidal patients with major depression following a unipolar course at the time of the sui-

Table 5. Univariate Analysis Comparing Improved Suicidal Patients With and Without Relapse of Depression Within 1 Month of Admission

Characteristic	With Relapse (N = 5)	Without Relapse (N = 10)	Analysis
Age, mean (SD), y	36.00 (15.52)	46.50 (11.81)	t = 1.47, df = 13, p = .17
Age at onset of illness, mean (SD), y	27.60 (13.13)	37.40 (13.62)	t = 1.33, df = 13, p = .21
Gender, N (%)			Fisher exact test, p = .33
Female	3 (60.0)	3 (30.0)	
Male	2 (40.0)	7 (70.0)	
Baseline polarity, N (%)			Fisher exact test, p > .99
Unipolar	4 (66.7)	8 (66.7)	
Bipolar	1 (33.3)	2 (33.3)	
With melancholic features, N (%)	3 (60.0)	9 (90.0)	Fisher exact test, p = .24
Method of suicide attempted, N (%)			Fisher exact test, p = .61
Violent	2 (40.0)	6 (60.0)	
Nonviolent	3 (60.0)	4 (40.0)	
Loss of consciousness, N (%)	3 (42.9)	3 (37.5)	Fisher exact test, p > .99
Baseline severity, N (%)			Fisher exact test, p > .99
Severe	2 (40.0)	6 (60.0)	
Moderate	3 (60.0)	4 (40.0)	
Adequate antidepressant treatment, N (%)	2 (40.0)	0 (0)	Fisher exact test, p = .095
Duration of index hospitalization, mean (SD), d	130.0 (170.8)	60.1 (45.8)	t = –1.26, df = 13, p = .23

cide attempt than among nonsuicidal unipolar patients, whereas bipolar patients both with and without a suicide attempt demonstrated no significant improvement at week 1 when compared with baseline. These findings were confirmed using both categorical and dimensional analyses, and also confirmed by our multiple logistic regression analysis which revealed that from the various demographic and clinical variables examined, only the baseline polarity of a unipolar course showed significant predictive value in relation to the improvement of depression at week 1.

The former finding is practically consistent with that of van Praag and Plutchik[4] who reported that depression was improved to a significantly greater extent within a few days of hospitalization in 25 suicidal depressed patients comprising 23 with a unipolar course and 2 with bipolar depression than in a control group of 50 unipolar depressed but nonsuicidal patients.

However, Bronisch[10] was unable to replicate the findings of van Praag and Plutchik, and instead found that the course of depressive symptoms during an index inpatient treatment period was similar in their subjects with unipolar major depression regardless of whether or not they had attempted suicide. Bronisch suggested that the discrepancy between his results and those of van Praag and Plutchik was due to the greater severity of depression, the more violent means of attempted suicide, and the inclusion of male patients in the latter study. This explanation, however, is not supported by the results of our multivariate analysis, which indicated that the above-mentioned variables were not significantly associated with an improvement in depression in the group of suicidal patients. Although Bronisch assessed the course of illness after the index admission on more than 2 occasions, he did not compare presuicidal and postsuicidal mood conditions. The lack of this comparison might explain why he was unable to find a significant decrease in depression after a suicide attempt, since it is possible that the depression may already have improved by the time of admission.

The agreement between our results and those of van Praag and Plutchik[4] makes it likely that our findings could also be accounted for by the suggestion of the latter authors that a suicide attempt can have a cathartic therapeutic effect. However, our finding does not support their additional suggestion that an acute somatic upheaval due to a serious suicide attempt may have a nonspecific antidepressant effect, because our logistic regression analysis suggested that a more violent suicide attempt had no significant predictive value in relation to amelioration of depression.

In other reports[6,7,9] addressing changes in symptoms after suicide attempts, most of the subjects were also depressed patients with a unipolar course, and the effect of polarity on the symptom changes after the suicide attempt was not investigated. Therefore, our new findings are noteworthy and require further replication.

While Davis[7] reported that patients with the Levine-Pilowsky Depression[13] (LPD) category of endogenous depression were more likely to show less postsuicidal improvement in depression when compared with patients with other LPD categories, our univariate and multivariate analyses indicated that the presence of melancholic features was not significantly associated with postsuicidal symptom changes. Furthermore, these findings could be explained by our speculation that patients with bipolar depression may show less responsiveness to environmental events due to a stronger biological basis of bipolar disorder when compared with patients showing unipolar depression, independent of the presence of melancholic features.

It is striking that 33.3% and 53.3% of our patients who experienced a decrease in their depression after a suicide attempt showed a relapse within 1 and 3 months of admission, respectively, even though they had been receiving inpatient treatment or a combination of inpatient and outpatient treatment. From a single case study, Calache and Achamallah[6] suggested that the apparent remission of depression seen after a suicide attempt may be a temporary phenomenon. Our findings confirmed this and suggest that, even if a suicide attempt does have an apparent cathartic effect, the effect is only transient in some patients and moreover leads us to speculate that a relapse of depression may be due to a reduction in the cathartic effect of a suicide attempt. Furthermore, our review of these patients' medical charts indicated that a relapse of depression might be brought about by the pressure of an earlier discharge and social reenrollment or a decrease in treatment intensity (i.e., tapering of psychotropic drugs or decreased doctor/patient contact including a change from inpatient to outpatient treatment) due to the improvement in depression observed after a suicide attempt. We were unable to identify any demographic and clinical factors significantly associated with the duration of improvement of depression, suggesting that it is difficult to predict whether or not a postsuicidal improvement in depression will persist. However, we cannot rule out the possibility that a type-II error related to the small sample size is involved in the comparison between the groups of the suicidal patients with and without depression relapse.

In 40 depressed patients who had attempted suicide, 7 (17.5%) demonstrated a switch from depression to (hypo)mania soon after the suicide attempt. However, we found no significant difference in this switch rate between the suicidal group and nonsuicidal control groups (17.5% vs. 7.5%). Considering that our subjects had been ill for an average of 10 years, these (hypo)manic switching rates seemed higher than is generally thought. These high switching rates might be explained by the notion that a suicide attempt tends to be made during the vulnerable period of switching between depression and mania,[8] or that a vulnerable patient around a switch period is likely to be judged as needing inpatient treatment.

It must be noted that in 57.1% of our patients who exhibited a (hypo)manic switch after a suicide attempt, the (hypo)manic episode was followed by a switch-down into depression, because this may be a period of especially high suicidal risk, as Schweizer et al.[14] have pointed out.

With respect to the clinical implications of the present study, we suggest that clinicians who encounter patients demonstrating less severe depression or improvement of depression or even (hypo)mania soon after their suicide attempt should be alert to our findings suggesting that such patients are apt to experience worsening of depression or switch-down into depression over a relatively short period, leading to suicidal ideation or even further suicide attempts. The lack of demographic and clinical predictors for this worsening of depression highlights the importance of careful review and close follow-up of all patients, even those with a significant decrease in depression immediately following a suicide attempt.

We are aware of some potential methodological weaknesses in the present study. First, it is possible that the suicidal patients who satisfied our inclusion and exclusion criteria were a highly selected group and that the findings on these patients are therefore biased. However, the comparability seen between the suicidal group and the consecutively hospitalized nonsuicidal control group in terms of various demographic and clinical background characteristics means that this possibility can be excluded. Second, we compared presuicidal with postsuicidal mood conditions using the DSM-III-R global severity rating scale, which prevented us from assessing subtle changes in depressive symptoms. Nevertheless, our 1-week follow-up design in assessing the change of the overall severity in depression using a global rating scale such as that of DSM-III-R or Clinical Global Impressions-Severity of Illness (CGI-S)[15] appeared to approximate clinical practice, in that patients who had attempted suicide were reviewed and subsequent treatment decisions were made within a few days of admission. The third limitation of the present study was the use of medical chart reviews to obtain a retrospective assessment of postsuicidal mood conditions, although a presuicidal DSM-III-R (or DSM-IV) severity rating for the depression had been obtained by the treating psychiatrists. However, we excluded patients if we could not obtain detailed information on their symptomatology from their medical records, and this may have helped to minimize the limitations of such a retrospective study. Although van Praag and Plutchik[4] evaluated postsuicidal mood conditions in a prospective manner, they assessed presuicidal conditions on the basis of patient recall. As they pointed out, this may contribute to an artificial postsuicidal decrease in depression, because the patients may exaggerate their feeling of depression before the suicide attempt in order to provide justification for it. In contrast, the improvement in depression found among our suicidal patients is unlikely to include such an artificial decrease in depression, because the presuicidal mood conditions had been assessed by the treating psychiatrists. Thus, our methodology also has strength and, considering the remarkable difficulties involved in completing a prospective comparison of presuicidal and postsuicidal mood conditions, this strength could be appreciable. Finally, our findings may have been affected by the relatively small sample size; further studies employing larger sample sizes are warranted to confirm whether our findings can be generalized.

In conclusion, depression was improved to a significantly greater extent among patients with unipolar depression within 1 week of admission following a suicide attempt than among nonsuicidal patients with unipolar depression, suggesting that a suicide attempt has a significant cathartic effect; however, this effect may be restricted to patients with unipolar depression. It is also noted that more than half of the suicidal patients who initially showed postsuicidal improvement or (hypo)manic switching experienced a worsening of their depression or a switch-down into depression within 3 months of admission, despite receiving continued inpatient or outpatient treatment. No demographic and clinical predictors for this worsening of depression were detected, suggesting the difficulty of predicting whether or not a postsuicidal improvement in depression will persist. Thus, these findings highlight that the risk of a relapse of depression or a switch-down into depression or even of a repeat suicide attempt should not be overlooked, warranting vigilant inpatient and outpatient monitoring even if a postsuicidal improvement in depression or (hypo)manic switching is observed.

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