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Symptomatic recovery and social functioning in major depression

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Objective: To determine whether social functional recovery precedes, runs in parallel with, or lags behind symptomatic recovery from major depressive episodes.
Method: Psychiatric out-patients or in-patients aged 18 years or over, diagnosed with unipolar major depressive disorder according to DSM-IV, and who had received no antidepressant medication in the preceding 3 months were identified at 23 collaborating centres from all over Japan ($n=95$). They were rated with the 17-item Hamilton Rating Scale for Depression (HRSD) and the Global Assessment Scale (GAS) monthly, and with the Social Adjustment Scale-Self Report (SAS-SR) 6-monthly. Remission was defined as 7 or less on the HRSD and recovery as 2 or more consecutive months of remission.
Results: The GAS ratings showed continuous amelioration from baseline to remission, remission to recovery, and after sustained recovery. The same trends were observed for SAS-SR scores.
Conclusion: We can expect further amelioration in social adjustment after symptomatic remission and recovery of major depressive episodes.

Key words: depressive disorders; social adjustment; follow-up studies; prognosis; time factors

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Introduction

There is now increasing recognition of the need to consider the recovery of depressed patients in broader terms than merely as improvement in symptoms, by assessing the effect of depression on patient's work, family and social functioning (1). It is well known that substantial social maladjustment accompanies major depression (2, 3) and that there is overall synchrony of change between depression and disability (4, 5).

However, the temporal relationships between symptomatic and social recoveries of major depression are not well-understood, and little is known about the lag times between remission of psychological impairments and associated effects on social role functioning (6). One study suggests that these two may go hand in hand, and another indicates that the latter may lag behind the former, while still others hint at sustained social impairment despite symptomatic recovery.

Billings and Moos examined 380 patients with major or minor depression according to the Research Diagnostic Criteria (7) 1 year after their treatment commencement. Thirty-five per cent of the cohort were asymptomatic or only very slightly symptomatic without treatment for the 1 month preceding the follow-up evaluation, and these patients reported social and vocational functioning comparable to non-depressed community controls (8).

Another study followed a group of 40 depressed women who had responded with 50% or more reduction in symptoms to 1 month's treatment with an antidepressant. The improvement in social adjustment was most rapid in the first 2 months after response to the acute episode, and continued more slowly for the next 2 months. Thereafter, it was more or less static up to 1 year. Although the improvement was considerable, it was not complete and did not reach the levels of their normal neighbours. The authors postulated that these residual malfunctions reflected underlying personality disturbances (9). However, when the same cohort was followed-up 4 years later, there was little significant difference in social adjustment between the recovered subjects and the normal sample (10). The non-recovered, symptomatic subjects continued to show impaired social adjustment.

Bauwens et al. (11) examined social adjustment of bipolar and unipolar patients who were free of minor depressive or hypomanic episodes for at least 2 months and found that scores for global adjustment were significantly worse in patients than in controls. The investigators of the NIMH Collaborative Depression Study reported surprise at finding that their probands showed severe impairment, even when recovery was sustained for the final 2 years of follow-up (12). The latter study, however, may have overrepresented chronic, refractory patients (13).

The Group for Longitudinal Affective Disorders Study (GLADS) in Japan is following up a cohort of broadly defined mood disorder patients for 10 years (14). The present report focuses on the social adjustment following symptomatic remission and recovery from unipolar major depression among our cohort. It seeks to answer the question: at what rate does a patient's social functioning improve when he/she recovers from a major depressive episode? Does it precede, run in parallel with, or lag behind the symptomatic recovery?

Material and methods

The study methods are described in detail elsewhere (14) and are summarized briefly here.

Subjects

Subjects were psychiatric out-patients or in-patients aged 18 or over, diagnosed with unipolar major depressive disorder according to DSM-IV, and who had received no antidepressant or antipsychotic medication in the preceding 3 months. Subjects were identified at 23 collaborating centres from all over Japan (psychiatric departments of 13 university hospitals, those of six general hospitals, three mental hospitals and one community mental health centre). Japan does not have the family doctor system and psychiatrists are often the first-line consultees for people who realize that their problems are mental rather than physical. Written informed consent was obtained from all participants after full disclosure of the purposes and procedures of the study.

Assessments

The patients eligible for and consenting to the study were interviewed within 1 week from entry by a psychiatrist using a semi-structured interview, the Comprehensive Assessment List for Affective disorders (COALA) (15). The COALA consists of a series of semi-structured interviews which enable serial assessment of the cohort; these include the entry version, monthly follow-up version, and 6-monthly follow-up version. The 17-item Hamilton Rating Scale for Depression (HRSD) (16) as well as the Global Assessment Scale (GAS) (17) are embedded into the COALA. The reliability of the individual items as well as composite scores derived from the COALA has been reported to be good to excellent (18).

We also administered the Social Adjustment Scale-Self Report (SAS-SR) (19) at the baseline as well as every 6 months. The normative data for the SAS-SR were obtained from a separate study at a large general hospital (20). A randomly selected half ($n = 423$) of all the employees of the hospital were requested and gave their informed consent to fill in a self-report test battery including the SAS-SR and the 30-item General Health Questionnaire (GHQ) (21) as part of an anonymous survey on the mental health of the work place. We used the mean (total SAS-SR score = 1.65) of those who scored below the validated threshold value (7 or less) on the 30-item GHQ (22).

The patients were followed up monthly until treatment termination and 6-monthly thereafter up to 2 years.

Analyses

In accordance with the proposals by Frank et al. (23), we considered the patient as 'remitted' when he/she scored 7 or less on the 17-item HRSD, and 'recovered' when he/she has scored 7 or less for 2 consecutive months or more.

The time-course of the symptomatology of the index episodes has been reported elsewhere (24) and, in the present report, we will concentrate on the social functions of the patients at the following time points in their process of recovery from a major depressive episode.

We examined the serial changes of the GAS scores at the baseline, upon remission, at the beginning of the 2-month period constituting recovery, upon recovery and when the patients were in a stable state of recovery for at least 6 months. We further evaluated the serial changes of the SAS-SR scores at the baseline, after recovery and after sustained recovery. The SAS-SR scores were also compared with the normative data.

We used SPSS 8.0 (25) for our statistical analyses. We first applied repeated-measures ANOVA to examine if the serial assessments of GAS or SAS-SR scores showed within-subject changes. If this overall test was statistically significant, then we used paired *t*-tests (with Bonferroni correction) to compare GAS or SAS-SR scores between two consecutive time points, and one-sample *t*-tests (with Bonferroni correction) to compare SAS-SR scores with the

Table 1. The serial changes in the GAS scores in the recovery process from a major depressive episode

Time points	GAS (95% CI)	Serial comparison with Bonferroni correction
At baseline ($n=95$)	46.6 (44.2–49.0)	
Upon first remission ($n=74$)	59.9 (56.4–63.4)	$t=-8.2$, df = 73, $P<0.01$
At beginning of 2-month period of recovery ($n=53$)	61.4 (57.3–65.6)	$t=-2.6$, df = 52, $P=0.048$
Upon first recovery ($n=53$)	76.2 (73.7–78.7)	$t=-6.4$, df = 52, $P<0.01$
Upon sustained recovery ($n=20$)	80.2 (76.0–84.4)	$t=-1.9$, df = 19, $P=0.29$

Repeated measures ANOVA for the five GAS ratings, Wilks' lambda = 0.110, $F=32.2$, hypothetical df = 4.0, $P<0.001$.

normative data. The Bonferroni method is usually considered to be a conservative approach to multiple significance tests (26).

Results

Ninety-five patients were enrolled in the present study, who were diagnosed with unipolar major depressive disorder according to DSM-IV, and who had received no antidepressive therapy for the index episode before study entry. Their average age was 43.7 (SD = 14.9). Fifty-two (58%) were women. Fourteen (15%) were in-patients at the time of study enrolment.

Within 2 years of follow-up, 74 reached remission and 53 reached recovery, according to the above definitions. Twenty of these 53 patients further demonstrated sustained recovery over 6 months. Table 1 presents the serial changes of the GAS scores, and Table 2 those of the SAS-SR scores.

The repeated-measures ANOVA for the five GAS ratings showed statistically significant differences among them (Wilks' lambda = 0.110, $F=32.2$, hypothetical df = 4.0, $P<0.001$). Further *post hoc* paired *t*-tests with Bonferroni correction demonstrated that the GAS scores showed continuous amelioration from baseline to first remission ($t=-8.2$, df = 73, $P<0.01$), from remission to the beginning of recovery ($t=-2.6$, df = 52, $P=0.048$), and through the 2 months of recovery ($t=-6.4$, df = 52, $P<0.01$). The patients reached the state of minimal functional impairment (GAS scores in the 70s) after 2 months of remission (Table 1).

The SAS-SR scores for the 91 subjects at baseline were significantly worse than those for the healthy controls ($t=12.7$, df = 90, $P<0.01$, with Bonferroni correction). The overall repeated-measures ANOVA was statistically significant for the three measurements of the SAS-SR (Wilks' lambda = 0.328, $F=6.16$, hypothetical df = 2, $P=0.025$). The SAS-SR showed statistically significant amelioration from baseline to the first measurement after recovery ($t=5.2$, df = 23, $P<0.01$, with Bonferroni correction). If remission was further sustained, although no demonstrable amelioration was noted probably due to the small sample size ($t=0.74$, df = 8, $P=0.96$, with Bonferroni correction), the patients' scores approached the average score (1.65) of the healthy control subjects (Table 2).

Discussion

Impaired psychosocial functionings of adults with chronic depression has sometimes been attributed to deeply ingrained character disturbances (9, 27) Recent research has demonstrated, however, that chronically depressed, dysthymic patients who respond to antidepressant medication improve also in social and interpersonal functioning (28–31). In other words, social-vocational impairments in some dysthymic patients may represent affective symptoms rather than character deficits.

On the other hand, data on what happens to social adjustment of patients after their acute major depressive episodes subside are conflicting. One study suggested that these two may go hand in hand (8), and another that the former may lag behind the latter (9, 10), while still others hint at sustained social impairment despite symptomatic recovery (11, 12). One of the best practice guidelines to date on the treatment of major depression defined the objectives of acute phase treatment as '(1) reduction

Table 2. The serial changes in the SAS-SR scores and their comparisons with normative data

Time points	SAS-SR (95%CI)	Serial comparison with Bonferroni correction	Comparison with healthy controls with Bonferroni correction
At baseline ($n=91$)	2.31 (2.21–2.41)		$t=12.7$, df = 90, $P<0.01$
First SAS-SR after recovery ($n=26$)	1.80 (1.66–1.93)	$t=5.2$, df = 23, $P<0.01$	$t=2.1$, df = 25, $P=0.14$
Second SAS-SR after sustained recovery ($n=9$)	1.61 (1.44–1.78)	$t=0.74$, df = 8, $P=0.96$	$t=-0.50$, df = 8, $P=1.0$

Repeated measures ANOVA for the first three SAS-SR ratings, Wilks' lambda = 0.328, $F=6.16$, hypothetical df = 2, $P=0.025$.

and, wherever possible, removal of all signs and symptoms of the depressive syndrome, and (2) restoration of occupational and other psychosocial functioning to that of the asymptomatic state' (32). We still do not know, however, if these two can be realized simultaneously.

Our study has demonstrated that the GAS ratings, although greatly improved from baseline, still were not in the normal range upon remission of a major depressive episode. If the remission was maintained for 2 months and the patients judged recovered, the GAS ratings improved more and reached the normal range. If the recovery was sustained further, the GAS ratings appeared to improve further. The same trends were observed for SAS-SR scores. The first SAS-SR ratings after recovery were significantly better than the baseline. As recovery was sustained, they reached the normal range.

Our findings are therefore in line with those by Paykel and Weissman (9) and Bothwell and Weissman (10), and suggest that we can expect further amelioration in social adjustment after acute symptomatic remission and recovery of major depressive episodes. The aims and hence the definitions of acute phase treatment of major depression in future guidelines will need to take account of these.

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