

Negative Attributional Style in Seasonal and Nonseasonal Depression

Robert D. Levitan, M.D., Neil A. Rector, Ph.D., and R. Michael Bagby, Ph.D.

Objective: There is a substantial relationship between dysfunctional cognitions and the clinical course of major depression. This study examined whether this association extends to patients with seasonal affective disorder. **Method:** A revised version of the Attributional Style Questionnaire was used to assess negative attributional style and predict response to treatment in a group of depressed outpatients, 26 with seasonal depression and 30 with nonseasonal, unipolar major depression. **Results:** Pretreatment scores on negative attributional style did not differ between the patients with seasonal affective disorder and those with nonseasonal depression. Negative attributional style predicted poor response to pharmacotherapy in the nonseasonal depression group but did not predict response to light therapy in the group with seasonal affective disorder. **Conclusions:** Dysfunctional cognitions may play a lesser role in seasonal affective disorder than in nonseasonal depression.
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Negative cognitions have a major impact on the onset, course, treatment, and recurrence of major depression (1–3). In the National Institute of Mental Health (NIMH) Treatment of Depression Collaborative Research Program, cognitive dysfunction (i.e., dysfunctional attitudes) predicted poor response to treatment across active treatment conditions (4). Central to the cognitive theory of depression is the idea that depressive disorders, regardless of subtype, are a consequence of negative thinking patterns activated by psychosocial stressors (5). One possible exception to this model is seasonal affective disorder, a subtype of major depression characterized by recurrent fall/winter depressions alternating with periods of remission in the spring/summer months (6). In seasonal affective disorder the onset of depressed mood is thought to be the consequence of biological changes triggered by reduced sunlight, independent of psychosocial stressors (6, 7). This raises the possibility that dysfunctional cognitions play a lesser role in seasonal affective disorder than in nonseasonal major depression.

The goal of this study was to explore, in a preliminary way, the role of one type of dysfunctional cognition,

negative attributional style (i.e., the tendency to make stable and global attributions to negative situations), in the pathophysiology and response to treatment of patients with seasonal affective disorder and patients with nonseasonal depression. We hypothesized that when they were depressed, patients with nonseasonal depression would have a more negative attributional style than patients with seasonal affective disorder, and that negative attribution would predict outcome of treatment in patients with nonseasonal depression but not in those with seasonal affective disorder.

METHOD

The study subjects were outpatients treated at the Depression Clinic at the Clarke Institute of Psychiatry, Toronto. Diagnoses were based on the Structured Clinical Interview for DSM-IV Axis I Disorders, Patient Edition (SCID-P) (8). All subjects in both groups scored 20 or more on the 29-item Hamilton Depression Rating Scale (9); this version of the Hamilton depression scale includes an eight-item addendum to assess the "atypical" symptoms of depression, such as hypersomnia and increased eating. The Hamilton depression scale was chosen for this particular study on the basis of the very high rates of atypical symptoms reported in persons with seasonal affective disorder (6) and among outpatient depressed populations (10).

The group with seasonal affective disorder consisted of 26 patients (three men and 23 women) whose mean age was 38.2 years (SD=11.7). The group with nonseasonal depression consisted of 30 patients (nine men and 21 women) whose mean age was 41.3 years (SD=9.8). There were no significant differences between the groups with respect to age, gender, and marital and employment status. All subjects were unmedicated for a minimum of 2 weeks before entering the study; the patients with seasonal affective disorder had never received a trial of light therapy. After complete description of the study to the subjects, written informed consent was obtained.

Received June 2, 1997; revision received Sept. 3, 1997; accepted Oct. 17, 1997. From the Depression Clinic, the Cognitive Behavioral Therapy Unit, and the Research Section on Personality and Psychopathology, Mood and Anxiety Disorders Division, Clarke Institute of Psychiatry; and the Department of Psychiatry, University of Toronto. Address reprint requests to Dr. Levitan, Depression Clinic, 11th Floor, Mood and Anxiety Disorders Division, Clarke Institute of Psychiatry, 250 College St., Toronto, Ont., Canada M5T 1R8.

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Prior to treatment all patients were administered the SCID-P, the Hamilton depression scale, and a revised version of the Attributional Style Questionnaire (11). This version of the Attributional Style Questionnaire consists of 12 hypothetical negative life events or situations. Respondents are asked to write down the one major cause of each event and to rate on a 7-point Likert scale the stability/instability and globality/specificity of each identified cause. The stability and globality scale scores are summed to establish a composite rating of negative attributional style.

The patients with seasonal affective disorder received 10,000 lux of full-spectrum light for 30 minutes each morning over a 2-week period. After 2 weeks of treatment, the Hamilton depression scale was readministered. The patients with nonseasonal depression received 8 weeks of one of the following antidepressant medications in the dose range indicated: sertraline (50–200 mg/day), paroxetine (20–40 mg/day), venlafaxine (75–375 mg/day), or desipramine (2.5 mg/kg body weight per day). After 8 weeks of treatment, the Hamilton depression scale was readministered. Response to treatment was defined as a 50% reduction or more in Hamilton depression score.

RESULTS

There were no significant differences between study groups in baseline Hamilton depression scale score (seasonal affective disorder group: mean=30.6, SD=7.0; nonseasonal depression group: mean=34.2, SD=7.4; $t=1.88$, $df=54$, $p=0.07$) or in attributional style score (seasonal affective disorder group: mean=118.0, SD=21.2; nonseasonal depression group: mean=124.6, SD=18.5; $t=1.25$, $df=54$, $p=0.22$). The mean Hamilton depression scale scores at time 2 for the seasonal affective disorder and nonseasonal depression groups were 15.3 (SD=9.8) and 16.4 (SD=11.6), respectively. To examine response to treatment in the two study groups over time, a 2×2 (group-by-time) repeated measures analysis of variance was performed. The main effect for study group was not statistically significant ($F=1.44$, $df=1$, 54, $p=0.24$). There was a significant main effect for time ($F=135.30$, $df=1$, 54, $p<0.001$). The group-by-time interaction was not significant ($F=0.77$, $df=1$, 54, $p=0.39$).

There were 12 responders and 14 nonresponders in the seasonal affective disorder group, and 18 responders and 12 nonresponders in the nonseasonal depression group. The distribution of responders and nonresponders across groups was not significantly different. To test whether attributional style differentially predicted response to treatment in the two study groups, a hierarchical logistic regression analysis was performed. The dependent variable was response status of the patients (i.e., responder/nonresponder). The independent variables in order of entry were baseline Hamilton depression scale score (to control for severity of depression), attributional style score, diagnostic group, and an interaction term of attributional style score by diagnostic group. A significant effect for diagnostic group was found (Wald statistic=5.60, $df=1$, $p=0.02$; $R=0.22$). The interaction term was also a significant predictor of response (Wald statistic=5.06, $df=1$, $p=0.02$; $R=0.20$). Fifty-seven percent of the patients who responded ($N=17$ of 30) and 77% of those who did not respond ($N=20$ of 26) were accurately predicted by the model. While

baseline attributional style scores failed to predict response group among the patients with seasonal affective disorder (Wald statistic=0.12, $df=1$, $p=0.73$; $R=0.00$), they did predict (lack of) response among the patients with nonseasonal depression (Wald statistic=5.05, $df=1$, $p=0.02$; $R=0.27$).

DISCUSSION

Contrary to prediction, study subjects with seasonal affective disorder did not have a less negative attributional style before treatment than did subjects with nonseasonal depression. However, as hypothesized, negative attributional style predicted (poor) treatment outcome only in the nonseasonal depression group. This latter finding is consistent with current formulations of seasonal affective disorder, which emphasize biological factors in its course and treatment (6, 7), and the DSM-IV description of seasonal affective disorder, which excludes psychosocial factors by definition. Our results also replicate findings from the NIMH collaborative study of depression, in which cognitive dysfunction predicted poor response to antidepressant medication (4).

Although the patients with seasonal affective disorder and those with nonseasonal depression did not receive comparable treatments in terms of duration (2 weeks versus 8 weeks) and modality (light therapy versus pharmacotherapy), both interventions are in accord with standard protocols for these respective conditions. Further studies in which patients with seasonal affective disorder and those with nonseasonal depression receive pharmacotherapy of similar duration would help clarify whether patient variables and/or the mechanism of light therapy account for the current findings. Assessing negative attributional style in these two study groups before the onset of a depressive episode would also be of interest.

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