

Sleep disturbances and suicidal behavior in patients with major depression

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Objective The purpose of this study was to examine the association between sleep disturbances and suicidal behavior in patients with major depression (N=113).

Methods The sleep symptomatology of each patient was ascertained from the Schedule for Affective Disorders and Schizophrenia (SADS) from the questions concerning sleep in the section on major depression. Patients were retrospectively classified as having hypersomnia, insomnia, and no sleep disturbance. SADS suicide subscale was used to rate the severity of active suicidality.

Results The patients had also insomnia had significantly higher scores of the SADS suicide subscale scores than

those had also hypersomnia and those had no sleep disturbance. In addition, the patients had also hypersomnia had significantly higher scores of the SADS suicide subscale scores than those had no sleep disturbance. We also found that the patients had also insomnia and hypersomnia were more likely to become suicidal than those had no sleep disturbance.

Conclusion These data suggest that there is an association between sleep disturbances, particularly insomnia, and suicidal tendency in patients with major depressive disorder.

Key words Sleep disturbance, insomnia, hypersomnia, suicidal behavior, major depression

Introduction

Sleep researches in depression have been lead to insights regarding the neurobiological mechanisms of depression, particularly mood dysregulation. Several authors have recently considered the implications of sleep disturbances in depressed patients using circadian, neurochemical, and neurobiological theoretical frameworks (1, 2). Population and clinical-sample surveys of subjective sleep and mood disturbances suggested that there was an association between the presence of depressed mood and the severity and persistence of sleep disturbance (1). Sleep disturbance, particularly insomnia can be an early symptom of, or a marker of vulnerability to, depression (3). Moreover, sleep disturbance may effect many clinical variables in patients with depression. A study of 242 patients with rheumatoid arthritis revealed that an interaction factor of high pain levels and high levels of sleep disturbance was associated with the development of the depression (4). There is a prognostic significance of sleep disturbance, particularly insomnia, in predicting suicide among patients with affective disorders (5). In addition, there is some evidence for a relationship between sleep EEG abnormalities, such as rapid eye movement (REM) sleep time and suicidal behavior in depressive patients (6). Thus, it may be suggested that there is an association between sleep

disturbances and suicidal behavior in major depression. This may be important to assess suicidal tendency in depressive patients. Fawcett et al. considered insomnia to be one of the "modifiable risks" for suicide. However, in our opinion, there is an unresolved issue on this topic. Is another sleep disturbance, for example hypersomnia, may also be considered as a predictor in major depression? In this study, we examined the association between sleep disturbances and suicidal tendency in patients with major depression.

Material and Method

Subjects comprised 113 inpatients or outpatients consecutively admitted to major depression research program at the Yüzüncü Yıl University Education and Research Hospital Psychiatric Clinic. Inclusion criteria for the study were 1) meeting the DSM-III-R criteria for major depression; 2) an age between 18 and 70 years, 3) good physical health as determined by physical and laboratory examination and; no history of psychotic disorders or current substance abuse and; 5) informed consent for participation in the study. Severity of depressive symptoms was assessed with Hamilton Rating Scale for Depression (7). The mean Hamilton score was 33.8 (SD=6.1).

The sleep symptomatology of each patient was ascertained from the Schedule for Affective Disorders and Schizophrenia (SADS) (8) from the questions concerning sleep in the section on major

depression. Patients were retrospectively classified as having hypersomnia, insomnia, and no sleep disturbance.

SADS suicide subscale was used to rate the severity of active suicidality. A patient was classified as being suicidal if he or she had a SADS suicidality score of 3 or higher. This score necessitates that a patient has suicidal ideation. The SADS includes the following numerical ratings of the severity of suicidality:

1. No suicidality.
2. Slight suicidality.
3. Mild suicidality.
4. Moderate suicidality.
5. Severe suicidality.
6. Extreme suicidality.
7. Very extreme suicidality.

All data were reported as the mean \pm 1 SD. For SADS suicidality score, group data were analyzed using one-way analysis of variance (ANOVA). Post-hoc comparisons of three groups (hypersomnia vs. insomnia vs. no sleep disturbance) were compared using the Student-Newman-Keuls multiple-range test. The rates of suicidal patients in each group were compared by using chi-square tests (two-tailed). Analyses were performed using the SPSS for Windows v5.01.

Results

Sixty-nine patients were retrospectively classified as having insomnia, 20 as having hypersomnia, and 24 as having no sleep disturbance. Of 69 patients in the insomnia group, 18 (26 %) were men and 37 (74 %) were women. Of 20 patients in the hypersomnia group, 9 (45 %) were men and 11 (55 %) women. Of 24 patients in no sleep disturbance group, 12 (50 %) were men and 12 (50 %) women. There was no significant difference between the insomnia and the other two groups ($X=5.58$, $df=2$, $n. s.$). The mean age of the patients in the insomnia group was 33.9 years ($SD=11.1$) (range=18-68), in the hypersomnia group was 32.4 years ($SD=13.5$) (range=18-57), in no sleep disturbance group was 33.1 years ($SD=13.4$) (range=18-63). There was no significant difference between the insomnia and the other two groups ($F=2.35$, $df=2.110$, $n. s.$).

The mean suicidality scores of the patients in each group were 4.4 ($SD=1.3$), 3.7 ($SD=1.3$), and 2.8 ($SD=1.2$), respectively. By ANOVA, there was a significant difference in the mean SADS

suicidality scores across the three groups ($F=13.25$, $df=2.110$, $p<0.001$). By Student-Newman-Keuls procedure, the mean SADS suicidality score were significantly higher in the insomnia group vs. hypersomnia group and no sleep disturbance group. In addition, the mean SADS suicidality score was significantly higher in the hypersomnia group vs. no sleep disturbance group. Thus, the mean SADS suicidality scores in the sleep disturbance groups were significantly higher than in no sleep disturbance group.

Forty-eight (70 %) patients in the insomnia group were classified as being suicidal. Of 20 patients in the hypersomnia group, 10 (50 %) were suicidal. Of 24 patients in no sleep disturbance group, 6 (25 %) were suicidal. By chi-square procedure, the rate of suicidal patients was significantly higher in the insomnia group vs. hypersomnia group and no sleep disturbance group ($X=14.83$, $df=2$, $p<0.001$). However, there was no significant difference between the insomnia group and the hypersomnia group ($X=2.61$, $df=1$, $p>0.05$). On the other hand, both the insomnia group and the hypersomnia group had higher rates of suicidal patients than no sleep disturbance group.

Discussion

This study replicated that insomnia was associated with suicidal tendency in patients with major depression. We found that the patients had also insomnia had significantly higher scores of the SADS suicide subscale scores than those had also hypersomnia and those had no sleep disturbance. In addition, the patients had also hypersomnia had significantly higher scores of the SADS suicide subscale scores than those had no sleep disturbance. We also found that the patients had also insomnia and hypersomnia were more likely to become suicidal than those had no sleep disturbance. On the other hand, the patients who had also sleep disturbance were more suicidal than the others. Thus, it may be suggested that not only insomnia but also hypersomnia were associated with suicidal tendency in patients with major depression. However, we suggest that insomnia is more important as a risk factor for suicidal behavior than hypersomnia. In a different study (5), the prognostic significance of various clinical features was examined in predicting suicide among patients with depression. Global insomnia rated based on items on the Schedule for Affective Disorders and Schizophrenia was one of the clinical symptoms associated with suicide during the following year. In this study, Fawcett et al.

considered insomnia to be one of the "modifiable risks" for suicide.

In a previous study (unpublished observation), we were examined the association between sleep quality and suicidality in major depressive disorder. We evaluated 41 patients with major depression by using the Pittsburgh Sleep Quality Index (PSQI) (9) and the Schedule for Affective Disorders and Schizophrenia (SADS) suicide subscale. We found that suicidal depressive patients had significantly higher scores of PSQI global scores than nonsuicidal patients. We also found significant correlation between the SADS suicide subscale scores and most measures of the PSQI.

Finally, these data suggest that there is an association between sleep disturbances, particularly insomnia, and suicidal tendency in patients with major depressive disorder. However, the causality between sleep and sleep disturbance and suicidality in depression is controversial. Several studies are needed to confirm this association.

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