Dream Anxiety Level in Patients with Major Depression

Mustafa Bilici, M.D., Kemal Yazıcı, M.D., Ömer Akil Özer, M.D.,
Önder Kavakçı, M.D.

Disturbances of sleep pattern and dream experience are quite common in patients with major depression (MD). The aim of this study was to compare patients with or without melancholic features and controls with respect to dream anxiety. Fifteen depressive patients with melancholic features (MD+M), 23 patients without melancholic features (MD-M), and 41 healthy controls were included in the study. Data were collected by using Hamilton Rating Scale for Depression (HRSD), Hamilton Anxiety Scale (HAS), Van Dream Anxiety Scale (VDAS), Pittsburgh Sleep Quality Index (PSQI) and Dream Diary. Statistical analyses displayed that VDAS and PSQI scores were significantly higher in the MD+M group compared to the MD-M group and the control group. In addition, there was a significant positive correlation between VDAS scores and HRSD, HAS and PSQI scores of the patients. VDAS score was identified as the variable most significantly discriminating the three groups from each other. Based on these findings, we may suggest that the level of dream anxiety is high in patients with MD, particularly in those with melancholic features, and that the level of dream anxiety can be used to discriminant cases with melancholic features from those without melancholic features. **(Sleep and Hypnosis 2002;4(1):15-21)**

Key words: *major depression, melancholia, dream anxiety, sleep quality*

INTRODUCTION

Disorders of sleep pattern are seen in 40-60% of major depressive outpatients, yet it is thought to be much higher in hospitalized patients (1). Depressive patients, particularly, complain of difficulty in falling asleep and/or in maintaining sleep, waking early in the morning

From Karadeniz Technical University, Medical School, Department of Psychiatry, Trabzon, (Drs. Bilici and Kavakçı), Mersin University, Medical School, Department of Psychiatry, Mersin (Dr. Yazıcı), Yüzüncü Yıl University, Medical School, Department of Psychiatry, Van (Dr. Özer), Turkey

Address reprint requests to: Dr. Mustafa Bilici, Karadeniz Technical University, Medical School, Department of Psychiatry 61080, Trabzon, Turkey
Tel: 0462 377 5495   Fax: 0462 325 0518
E-mail: bilici@msn.com

and sleep giving no feeling of restoration. Although the number and length of dreams recalled are decreased in depressed patients compared to nondepressed individuals (2), it is reported that negative or unpleasant dreams were more frequent in depressive patients (3). Besides, it has been suggested that there is an association between subjective sleep complaints and suicidal potential in depressed patients (4,5).

Polysomnographic studies of patients have shown disintegration of sleep continuity, of reduction of slow-wave sleep and shortening of REM latency, lengthening of the duration of first REM period, and increase of density of REM sleep (6). It has been suggested that disturbances of REM sleep and dream experiences may be expected more frequently in melancholic

patients, if one considers the finding that subjects with REM sleep disturbances have shown more abnormalities on neuroendocrine tests, such as dexamethasone suppression test (7,8).

The most important complaint related to the REM sleep is nightmare (9). Even though it is not complained of much commonly, a careful examination may reveal that many patients with major depression have nightmares leading to awakening and difficulty in falling asleep again. Nightmares have been defined as a long frightening dream involving threats to survival or security, from which the sleeper awakens. Nightmares typically occur later in the night during REM sleep and produce vivid dream imagery, complete awakenings, mild autonomic arousal, and detailed recall of the event (10). Synonyms of nightmare are dream anxiety attack, terrifying dream, and REM-nightmare.

In addition to major depression, the nightmares can also be seen in nightmare disorder, narcolepsy, obstructive sleep apnea syndrome, panic disorder, post-traumatic stress disorder, delirium, schizophrenia, withdrawal syndromes, adjustment disorders and personality disorders (11-13). DSM-IV states that an additional diagnosis of nightmare disorder cannot be made if the nightmares occur exclusively during the course of another mental disorder (10).

It was not possible until recently to measure the level of dream anxiety (DA) occurring during the course of nightmare disorder and other mental disorders. Now, it is possible to measure the level of dream anxiety objectively by Van Dream Anxiety Scale (VDAS) developed by Ağargün et al. (14).

Overall, it is suggest that patients with major depression, especially those of the melancholic type display both subjective and objective disturbances of sleep; and DA during the nightmares can be measured objectively. But, to our knowledge, no study has measured DA objectively with VDAS neither in major depressive patients nor in depressive patients with or without melancholic features. In this study, we aimed to measure the level of DA in major depressive patients with or without melancholic features, to assess the clinical characteristics associated with DA level, and to compare the level of DA in depressive patients with healthy controls.

METHODS

Subjects

A total of 79 subjects, 38 with major depression and 41 healthy controls, were included in the study. The healthy subjects were selected among medical college students, hospital staff and their relatives, all of whom had no physical or mental disorder, or complaints related with sleep.

Patients consisted of those who were consecutively referred to psychiatric outpatient clinic of Medical Faculty of Karadeniz Technical University between November 1999 and March 2000, and who were fulfilling the inclusion criteria for this study. All patients were diagnosed major depression (MD) according to DSM-IV criteria (10) and they were separated into two groups as those having melancholic features (MD+M, n=15) and those who are not (MD-M, n=23). All subjects gave informed consent to participate in the study.

Patients with poor physical health, as determined by physical, neurological and laboratory examinations, and a with history of current substance abuse were excluded. All patients were a medication-free period (at least two weeks) of psychotropic drug before assessment.

Scales and Forms

1- *Sociodemographic data form:* This form was consisting of 32 questions related to sociodemographic and clinical features.

2- *Hamilton Rating Scale for Depression (HRSD):* This was developed by Hamilton (15) and 17-item version was used in the study. Validity and reliability study of the Turkish version was developed by Akdemir et al (16).

3- *Hamilton Anxiety Scale (HAS):* This was also developed by Hamilton (17). Validity and reliability of the Turkish version was published by Yazıcı et al. (18).

4- *Van Dream Anxiety Scale (VDAS):* The VDAS was developed by Ağargün et al. (14) the validity and reliability was established in patients with nightmares. The VDAS assessed dream anxiety during the preceding month. There are 17 self-rated questions in the scale. Four questions are used only for clinical information. Twelve questions are concerned with nightmare frequency, difficulty in falling asleep after a nightmare, fear of sleeping because of anticipated nightmare, trouble sleeping, dream recall frequency, sleepiness, morning anxiety, occupational distress, familial distress, social distress, psychological disturbances, and memory/concentration problems. One question is related to autonomic hyperactivity and consists of 12 symptoms. Thus, thirteen question scores are summed to yield a global VDAS score, which has a range of 0-52.

5- *Pittsburgh Sleep Quality Index (PSQI):* This scale, developed by Buysse et al. (19), evaluates the sleep quality within last month. Nineteen of total 24 questions are self-report questions and remaining 5 are answered by sleep partner of the subjects. This scale has seven components, namely subjective sleep quality, sleep latency, duration of sleep, habitual sleep pattern, sleep disorder, use of sleeping pills and daytime dysfunction. The higher the scores on the scale, the more severe the disturbance of sleep quality. Validity and reli-

ability study of the Turkish version has been published by Ağargün et al. (20).

6- *Dream Diary (DD):* This was developed to assess the frequency of dream recall. If the number of dreams recalled is equal to or less than 1 in a month, the score is 1; if approximately 1 in a month, the score is 2; if 2 or 3 in a month , the score is 3; if 1 in a week, the score is 4; and if several times a week, the score is 5 (21).

Patients reported the number of dreams during the prior month and we scored dream frequency accordingly.

Statistical Analyses

All statistical analyses were performed by using SPSS for Windows (version 10) statistical package. Pearson correlation test was used to determine correlations between the variables. Parametric variables of groups were compared with student's t test or ANOVA. Post-hoc tests were done by Tukey HSD where appropriate. Categorical variables were compared with chi-square test. Differentiating characteristics of melancholic and non-melancholic were analyzed by stepwise discriminate analysis. All numerical values are given as arithmetical mean ± standard deviation.

RESULTS

Some clinical and demographic characteristics of the patient groups and the controls are given in the Table 1. The groups were not different with respect to male/female ratios, mean

Table 1. Some clinical and demographic characteristics of the groups

Diagnosis	Men/Women*	Age[a] (Year)	Duration of Illness[b]	Number of Depressive Episode[c]
Healthy Controls	19/22	37.4±1.9	-	-
MD-M	11/12	34.4±3.4	6.4±2.6	3.4±2.8
MD+M	7/8	35.6±3.8	6.8±2.3	3.3±3.7
MD (total)	18/20	35.1±3.6	6.6±2.4	3.3±3.1

* Women/men ratios are not statistically different in the groups (X2=1.57, df=2, p=0.15).
a: Mean age of the groups are not statistically different by ANOVA (F=0.14, p=0.45).
b: Duration of illness of MD-M and MD+M is similar (t=0.18, p=0.78).
c: The number of depressive episode of MD-M and MD+M is similar (t=0.27, p=0.84).
HC: Healthy Controls, MD-M: Major depression without melancholia, MD+M: Major depression with melancholia, MD: Major depression.

Table 2. Scores of the administered scales of the groups

Diagnosis	HRSDa	HASb	VDASc	PSQId	DDe
HC	3.1±2.1	6.3±1.4	6.2±3.7	5.2±2.3	3.5±1.2
MD-M	17.8±8.3	13.7±6.7	12.4±4.6	7.8±2.5	1.1±0.2
MD+M	19.7±7.4	14.8±7.9	18.8±6.3	10.3±4.7	1.3±0.4
F	14.3	20.2	19.4	11.5	10.2
P	0.001	0.001	0.001	0.003	0.01

a, b, e: The values of MD-M and MD+M groups are higher than the HC (post-hoc Tukey HSD).
c, d: MD+M>MD-M>HC (post-hoc Tukey HSD).
HRSD: Hamilton Rating Scale for Depression, HAS: Hamilton Anxiety Scale,
VDAS: Van Dream Anxiety Scale, PSQI: Pittsburgh Sleep Quality Index. DD: Dream Diary.

Table 3. The comparison of the scores of the patients according to sex

Diagnosis	Sex	HDRS	HAS	VDAS	PSQI	DD
MD	Women	19.9±8.4	15.8±8.4	22.8±4.3	11.4±3.6	1.2±1.4
	Men	18.7±7.9	13.9±7.9	19.1±5.1	10.1±2.9	1.5±0.8
	t	1.12	1.7	3.7	0.7	0.2
	p	0.21	0.09	0.02	0.45	0.12

For abbreviations see Table 2.

Table 4. Correlation between the scores of the depressive patients

	HRSD	HAS	VDAS	PSQI	DD
HRSD	-				
HAS	0.43**	-			
VDAS	0.52**	0.62**	-		
PSQI	0.38*	0.29*	0.45**	-	
DD	-0.32*	-0.30*	-0.27*	0.29*	-

*: p<0.05, **: p<0.01
For abbreviations see Table 2.

Table 5. Standardized canonic discriminant function coefficients and wilk's lambda values

Variable	Function	Wilk's Lambda	F	P
HRSD	0.04	0.89	2.1	0.21
HAS	0.09	0.91	1.7	0.11
VDAS	1.00	0.41	12.4	0.01
PSQI	0.37	0.72	4.2	0.06
DD	0.08	0.88	3.1	0.18

For abbreviations see Table 2.

ages, mean duration of illness and mean number of depressive episodes.

Scores of the administered scales are shown in the Table 2. VDAS and PSQI scores of the patients with melancholic features were found to be higher than those without melancholic features.

Table 3 shows the comparison of the scores of patients according to sex. The only difference was that VDAS scores of the female patients were significantly higher than the males.

Correlations between the scores of the depressive patients are given in the Table 4. There were significant positive correlation between VDAS scores and HRSD, HAS and PSQI scores of the patients.

Stepwise discriminant analysis that was performed to identify the discriminating character-

istics of the three groups (MD-M, MD+M and controls) showed that the group covariance matrices were equal (Box's M=2.12, p=0.27). Standardized canonic discriminant function coefficients and Wilk's lambda values obtained for variables are shown in the Table 5. Stepwise discriminant analyses have shown that the variable most significantly discriminating the patients from controls and melancholic patients from non-melancholic ones was dream anxiety (eigenvalue=0.72, canonic correlation=0.58, X2=24.2, SD=2, p=0.001).

DISCUSSION

It has been reported that there exist close associations between mood and sleep, particularly the REM sleep (3,22). Dreams related with death have been reported to occur frequently during the days of mood changes in bipolar patients (22). Dow et al (23) have reported that the experience of dream anxiety was seen at a higher rate in Vietnam veterans with major depression compared to those without depression. Furthermore, it has been suggested that negative dreams occurred more frequently when depressive symptoms were severe, and decreased in remission (22). These data indicate that the dream experience is disturbed in depression and that negative or unpleasant dreams occur more frequently in the active phase of disorder, which normalizes in remission.

Table 1 shows that sociodemographic characteristics of subjects in this study were similar. Thus, we can say that the differences in the test scores between the groups are not due to the differences in sociodemographic characteristics of the subjects.

It was found that DD numbers were higher in the controls than the patients (see Table 2), which is consistent with the findings of several studies (2,24). It has been suggested that the decrease in DD number in depression is related with such factors as more frequent awakening, personality trait, visual memory, fantasy, creativity, more REM episodes occurring during

first half of the night, and cognitive disturbances in depressive patients (25). There are also some theories, namely "wake-recall model" (26) and "life style hypothesis" (27), to explain decreased numbers of DD in patients with depression.

One of the most important findings of this study is that although there were no significant differences in the HRSD, HAS and DR scores between the MD-M and MD+M groups, the MD+M group had significantly higher scores on VDAS and PUKI than the MD-M group. These findings indicate that disturbance of subjective sleep quality is more severe and the level of dream anxiety is higher in melancholic patients compared to non-melancholic ones. Based on these findings, we may speculate that biological factors are involved more in the pathophysiology of melancholic depression. Our findings are similar to those of Riemann et al. (28) and Armitage et al. (24) who used different methodologies. It has been claimed that increased bothering dream experiences may be a marker of vulnerability to recurrence of depressive episodes in patients with depression (29).

It is not clearly known why unpleasant dreams occur more frequently in depressive patients, however, according to the continuity hypothesis, dream anxiety was suggested to be a result of patients' daytime anxiety continuing into sleep and dreams (25).

The finding that the level of dream anxiety was higher in depressive women than depressive men (Table 3) is consistent with some previous studies (24,28). The cause of this has not been clarified and more detailed studies are needed.

We found that the level of DA was significantly correlated with the severity of depression and the level of anxiety (Table 4). These findings indicate that DA increases with the severity of depression. Therefore, it is suggest that the level of DA might be used to predict the severity of disorder in patients with depression. The finding of Schredl and Engelhardt (25) was similar to ours.

We showed that the best discriminating vari-

able between the groups was the level of DA (Table 5). Departing from this point, we can suggest that DA may be used to differentiate depressive patients as melancholic or non-melancholic.

In summary, the level of DA was higher in melancholic patients compared to non-melancholic ones, and this characteristic discriminates depressive patients as melancholic or non-melancholic. In addition, the level of DA was higher in the female depressive patients than the males.

One important limitation of this study is that patients were not reassessed in remission phase. If this would be done, it could have been clear whether our findings were state dependent or not. In addition, investigation of patient groups other than major depression would make it possible to understand whether the increase in the level of DA was specific for depression. Most importantly, establishing the association between the observed findings and polysomnographic parameters would possibly reveal the associations of scores of the scales administered and sleep patterns.

Future studies conducted in active and remission phases of major depression and in different diagnostic groups, and using polysomnographic techniques will provide more clear conclusions about DA.

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