

Social Phobia In Essential Tremor

Volkan TOPÇUOĞLU, Yasin BEZ, Dr. Duygu ŞAHİN BİÇER, Dr. Hüssein DİB, M. Kemal KUŞÇU, Çağrı YAZGAN, Dilek İNCE GÜNAL, Esat GÖKTEPE

SUMMARY

Objectives: This study is aimed to determine the frequency of social phobia among a group of subjects with essential tremor, to compare subject groups with and without social phobia with regard to the level of social phobia and disability, and to study the effect of the severity of social phobia on disability in essential tremor.

Method: 45 subjects, diagnosed with essential tremor were included in the study, and their severity of tremor and essential tremor-related functional impairment were determined. Subjects were evaluated in 2 groups; those with a social phobia diagnosis and those without, as determined with the SCID-I interview. Additionally, the Liebowitz Social Anxiety Scale (LSAS) and the Sheehan Disability Scale (SDS) were administered to both groups and the findings were statistically compared.

Results: Social phobia was observed in 19 subjects (42.2%) with essential tremor. While no difference was found between the groups in terms of tremor severity scores, the mean score of tremor-related functional disability in the social phobia group was found to be higher. Among subjects with social phobia, the mean fear and avoidance scores on LSAS were higher, whereas social lives and leisure activities of the same group were observed to have been affected more, according to SDS scores. Social avoidance and tremor severity were predictive for the difference on SDS. A significant and positive correlation between fear and avoidance, and disability in the group with social phobia was established.

Conclusion: It was concluded that essential tremor patients diagnosed with social phobia demonstrated higher social anxiety and disability compared to those without social phobia, and that social avoidance contributed to disability. Identifying social phobia in essential tremor patients and diagnosing these patients with social phobia, contrary to DSM's restrictive approach, would be appropriate and beneficial in terms of providing sufficient treatment.

Key Words: Essential tremor, social phobia, disability, diagnosis

INTRODUCTION and PURPOSE

According to DSM-IV, an individual can be diagnosed with social phobia provided that his social phobia is not related to his general medical condition or any other mental disorder, (American Psychiatry Association 1994). Thus, presence of any physical problem is considered as an exclusion criterion in diagnosis of social phobia. In DSM-IV classification, social phobia symptoms related to physical problems are diagnosed as 'Anxiety Disorder Not Otherwise Specified'. Although diagnosis of 'Anxiety Disorder Not Otherwise Specified' implies a psychiatric disorder, it is not as specific as social phobia diagnosis. This approach by DSM has caused social phobia in physical disorders to remain an insufficiently investigated subject.

Essential tremor is a movement disorder, which mainly affects the upper extremities and the head. Patients have difficulty in writing, holding a glass, pouring or emptying things, and using tools. Prevalence of essential tremor increases during adolescence and the 5th decade of life (Louis 2005). Generally mild and non-progressive for many years, tremor can worsen to the extent that it restricts one's daily functioning. Patients may experience anxiety in social settings due to uncontrollable tremor. Clinicians working on essential tremor have reported that patients avoid eating and drinking in public (Schneier et al., 2001).

It has been demonstrated in several studies that physical disorders may lead to social phobia and that this could negatively affect a person's life. In their study of 8 patients with various disfiguring disorders, Oberlander et al. (1994) established that the patients experienced social anxiety in a way

that was exaggerated and disproportionate to their physical conditions and showed that these patients were similar to patients with social phobia in their clinical features and response to treatment. Ignoring the restricting criterion of DSM completely, Stein et al. (1996) diagnosed social phobia in 12 out of 16 (75%) stutterers. In this study, the researchers demonstrated significant differences between subjects with social phobia and those without social phobia, on both social anxiety and avoidance scales, and the Sheehan Disability Scale (SDS), claiming that social phobia was important problem for some stutterers. Establishing social phobia as a primary psychiatric comorbidity in 41.3% of 116 patients with spasmodic torticollis, Gündel et al. (2001) concluded that the level of social anxiety was high in some patients with spasmodic torticollis and that it would be appropriate to diagnose them with social phobia. Schneier et al. (2001) found that symptoms of social phobia were more prevalent in patients with essential tremor than in controls, demonstrating that clinical features of essential tremor-related social phobia differed from primary social phobia.

It would be reasonable to consider essential tremor patients, whose complaints are easily noticeable by others, as a group, at risk for the development of social phobia. Aims of this study were, establishing the prevalence of social phobia in patients with essential tremor, comparing subjects with and without social phobia with respect to social anxiety and disability, as well as assessing the effects of social phobia's severity on disability in patients with essential tremor.

METHOD

Sample

The study included 45 patients (28 male and 17 female) with essential tremor who were treated in the Movement Disorders Outpatient Clinic, Department of Neurology, Faculty of Medicine, Marmara University, Turkey. The patients with essential tremor were contacted via their records; those who agreed to be interviewed were re-examined by a neurologist specialized in movement disorders, and the patients who were diagnosed with definite essential tremor according to the criteria set by the International Organization of Movement Disorder were included in the study (Deuschl et al., 1998); those with any neurological disorder, other than essential tremor, were excluded. All

subjects were informed about the objectives of the study and gave their informed verbal consent to participate.

Instruments

A semi-structured interview, prepared by the researchers was employed to assess the socio-demographic and clinical features of the subjects.

A semi-structured Essential Tremor Assessment Form (ETAF), prepared by the Movement Disorders Outpatient Clinic, Department of Neurology, Faculty of Medicine, Marmara University, was administered in measuring the severity of tremor and the level of functional impairment related to tremor; functional disability related to tremor was measured by the total of the scores determined by clinical interview with the patients, and the severity of tremor was measured by the total of the scores obtained during physical examination. Tremor-related functional disability was evaluated in 6 different areas (writing, fine motor tasks, eating, drinking, embarrassment, and a decrease in work performance), and the severity of tremor was evaluated for 5 different body parts (hands, head, tongue, chin, and legs). Both measurements were scored by rating the severity on a scale of 0-3, where 0 = absent, and 3 = severe. Thus, each subject was rated between 0 and 18 for tremor-related functional disability and between 0 and 15 for the severity of tremor. The form was developed based on other examples of structured essential tremor-rating scales (Cersosimo and Koller, 2004; Doğu et al., 2002).

The Structured Clinical Interview (SCID-I) for DSM-III-R Axis I Disorders is an individually administered interview developed for DSM-III-R Axis I diagnoses. Its adaptation to the Turkish population and its reliability studies were conducted by Soriaş et al. (1988).

The Liebowitz Social Anxiety Scale (LSAS) is a questionnaire developed by Liebowitz for the purpose of assessing the severity of fear and avoidance in social interactions and performance situations. The questionnaire includes 24 items, 11 assessing social situations and 13 assessing performance situations. Administered by a clinician, the scale provides scores on 6 subscales, measuring the severity of fear in social situations, the severity of performance fear, the severity of social avoidance, the severity of performance avoidance, the severity of total fear, and the severity of total avoidance.

Table 1. Comparison of Essential Tremor Patients With and Without Social Phobia in Terms of Age, Duration of Education, Age of Onset of Essential Tremor, Duration of Essential Tremor, Severity of Tremor, Tremor-Related Functional Impairment, LSAS, and SDS.

	Patients With Social Phobia (19 patients) Mean. $\pm$ ST	Patients Without Social Phobia (26 patients) Mean. $\pm$ ST	p
Age	42.47 $\pm$ 20.40	58.65 $\pm$ 15.97	.007
Duration of Education (years)	10.5 $\pm$ 4.5	11.5 $\pm$ 3.4	.42
Age of Onset of Essential Tremor	28.11 $\pm$ 18.1	46.04 $\pm$ 21.0	.004
Duration of Essential Tremor (years)	14.37 $\pm$ 9.9	12.69 $\pm$ 12.2	.616
Severity of Tremor	6.11 $\pm$ 3.05	5.15 $\pm$ 3.5	.34
Tremor-Related Functional Impairment	9.0 $\pm$ 4.93	4.54 $\pm$ 3.94	.003
LSAS-Total Fear	53.68 $\pm$ 15.13	36.55 $\pm$ 8.57	.000
LSAS-Social Fear	22.32 $\pm$ 7.49	14.59 $\pm$ 3.59	.000
LSAS-Performance Fear	31.37 $\pm$ 9.06	21.91 $\pm$ 5.75	.000
LSAS-Total Avoidance	51.32 $\pm$ 16.68	33.64 $\pm$ 9.84	.000
LSAS-Social Avoidance	21.63 $\pm$ 7.42	14.23 $\pm$ 4.45	.001
LSAS-Performance Avoidance	29.37 $\pm$ 10.95	19.32 $\pm$ 5.84	.001
LSAS-Fear of eating, drinking, writing	8.21 $\pm$ 3.03	5.50 $\pm$ 2.63	.004
LSAS-Avoidance of eating, drinking and writing	7.37 $\pm$ 3.15	5.0 $\pm$ 2.41	.012
SDS-Occupational Life	3.74 $\pm$ 3.18	2.35 $\pm$ 3.07	.174
SDS-Social Life	4.32 $\pm$ 3.53	1.40 $\pm$ 1.98	.004
SDS-Family Life	3.05 $\pm$ 3.24	1.70 $\pm$ 2.25	.142

Validity and reliability of the Turkish version of LSAS has been demonstrated (Dilbaz, 2001).

The Sheehan Disability Scale (SDS) was developed for assessing disability observed in occupational activities, social life along with leisure activities, and family life (Sheehan 1984). Consisting of 3 subscales rated by the subject from 0 to 10, SDS assesses the range of restrictions and failures in patients' occupational, social, and family lives.

Operations

Following the diagnosis of essential tremor by a neurologist, the level of tremor-related functional disability and the severity of tremor were established. After socio-demographic and clinical information were obtained, the patients were administered LSAS and SDS. SCID-I interview was administered to patients by a psychiatrist, blind to

the results of the neurological examinations and evaluations. For the diagnosis of social phobia, the exclusion criterion of DSM, prohibiting this diagnosis in the presence of other psychiatric and physical disorders, was suspended. The clinician began the SCID-I interview with items concerning social phobia and also demonstrated other Axis I diagnosis in patients with social phobia. SCID-I interviews were not completed with the patients without a social phobia diagnosis.

Statistical Analysis

The findings were analyzed by SPSS 11.5 program. The comparison of continuous variables (age, education, age of onset of tremor, and duration of tremor) was accomplished with Student's t-test, and for the comparison of the categorical variable (occupational status), k-square test were used. Scores from ETAF were compared by Student's t-

Table 2. Correlations between LSAS, SDS, and Tremor-Related Functional Impairment scores in essential tremor patients.

	LSAS Fear	LSAS Avoidance	SDS Occupation	SDS Social	SDS Family	TBIB
LSAS	-		.42**	.66**	.46**	.44**
LSAS		.92**	.34*	.72**	.47**	.49**
SDS-occupation		-	-	.24	.54**	.44**
SDS-social				-	.46**	.49**
SDS-family					-	.47**
Tremor-Related Functional Impairment						-

**p<.01, *p<.05

test, univariate analysis of variance (ANOVA) was used in the comparison of LSAS and SDS scores, and Pearson correlation analysis was used in the evaluation of the correlation between scores of different scales. Demographic and clinical variables that were likely to influence disability were assessed by multiple linear regression analysis. $P < 0.05$ was accepted as statistical significance.

RESULTS

Forty-five essential tremor patients, 28 (62.2%) male and 15 (37.8%) female, were included in the study. The mean age of the study group was 51.8 ± 19.5 years. The age of onset of essential tremor and duration of the illness were 38.4 ± 21.6 years and 13.4 ± 11.2 years, respectively. The mean of the subjects' scores for tremor-related functional disability and the severity of tremor were 6.4 ± 4.8 and 5.5 ± 3.3 , respectively.

The prevalence of social phobia among the subjects with essential tremor was 42.2% (19 subjects). While the mean age of the subjects with essential tremor was 42.4 ± 20.4 years, it was 58.6 ± 15.9 years in the subjects without social phobia. The difference between the mean ages of the 2 groups was statistically significant ($p = 0.007$). While 37% (7 subjects) of the subjects with social phobia had a stable job, only 27% (7 subjects) of the subjects without social phobia had a job. The mean duration of education, the mean age of onset of essential tremor, and the mean duration of essential tremor in subjects both with and without social phobia are depicted in Table 1. No statistically significant difference was found between the 2 groups regarding

the duration of education and occupational status. The difference between the mean age of onset of essential tremor in the 2 groups was statistically significant ($p = 0.004$), whereas there was no significant difference between the mean duration of essential tremor. Both groups' mean scores for the severity of tremor and for tremor-related functional impairment are shown in Table 1. While no statistically significant difference was observed between the groups in terms of the severity of tremor, when the scores of tremor-related functional impairment were compared, the difference between the 2 groups was found to be statistically significant ($p = 0.003$). Analysis of each item concerning tremor-related functional impairment revealed statistically significant differences between the groups regarding the item concerning the feeling of embarrassment ($F(1,43) = 25.4$, $p = 0.00$). The mean age of onset for social phobia was 18.7 ± 12.9 years, and the mean duration of social phobia was 23.7 ± 22.2 years. Social phobia started before the signs of tremor in 52.6% (10 patients) of the patients with social phobia. In 78.9% (15 patients) of the social phobia group, social phobia was generalized; in 21.1% (3 patients) it was non-generalized. In the group with social phobia, at least 1 comorbid mood disorder was observed in 8 subjects (42.1%), and at least 1 comorbid anxiety disorder was observed in 9 subjects (47.4%). Of these comorbid diseases, 42.1% (8 subjects) was major depression, 10% (2 subjects) was dysthymic disorder, 21% (4 subjects) was obsessive-compulsive disorder, 21% (4 subjects) was generalized anxiety disorder, 10% (2 subjects) specific phobia, and 5% (1 subject) was panic disorder. Since the comorbid diseases were

Table 3. Effects of age, gender, occupational status, and duration of education on disability in social life.

	Beta	SE	β	p	(39 patients)
Age	-.197	.033	-.030	.359	
Gender	.107	1.062	.689	.521	
Occupational	-.240	.897	-.969	.287	
Status Duration of Education	-.053	.135	-.042	.758	
$R^2 = .165$. Corrected $R^2 = .067$.					

identified only in the group with social phobia, no comparisons were made with the comorbid diseases of the group without social phobia.

As illustrated in Table 1, the patients with social phobia had significantly higher mean scores of LSAS performance fear, LSAS social interaction fear, and total LSAS fear, compared to the mean scores of patients without social phobia ($F(1, 40) = 16.3$, $p < 0.001$; $F(1, 40) = 18.5$, $p < 0.001$; $F(1, 40) = 20.6$, $p < 0.001$, respectively). Similarly, performance avoidance, social interaction avoidance, and total avoidance were found to be higher in the social phobia group ($F(1, 40) = 13.9$, $p = 0.001$; $F(1, 40) = 15.4$, $p < 0.001$; $F(1, 40) = 17.6$, $p < 0.001$, respectively). Considering that essential tremor would specifically affect eating, drinking, and writing functions, both groups' scores for fear and avoidance concerning these activities were compared (Table 1). The mean fear and avoidance scores of the social phobia group concerning eating, drinking, and writing functions were found to be higher than the other group's ($F(1, 40) = 9.4$, $p = 0.04$; $F(1, 40) = 7.4$, $p = 0.01$, respectively).

Social life and leisure activities were affected more in the social phobia group than in the other patients ($F(1, 38) = 10.2$, $p = 0.03$). No significant difference was found between the disabilities in both groups' occupational ($F(1, 38) = 1.9$, $p = 0.174$) and family lives ($F(1, 38) = 2.3$, $p = 0.137$) (Table 1).

A significant and positive correlation was demonstrated between the total mean scores of fear and avoidance and disabilities in occupational, social, and family life, in the social phobia group ($r = 0.42$, $p = 0.007$; $r = 0.66$, $p < 0.001$; $r = 0.46$, $p = 0.003$, respectively). A significant correlation between tremor-related functional impairment and LSAS total scores for fear and avoidance was demonstrated ($r = 0.44$, $p = 0.04$; $r = 0.49$, $p = 0.001$, respec-

tively). Similarly, significant correlations were found between tremor-related functional impairment and the occupational, social, and family life subscales of SDS ($r = 0.45$, $p = 0.004$; $r = 0.49$, $p = 0.001$; $r = 0.47$, $p = 0.002$, respectively) (Table 2).

Demographic (age, gender, duration of education, occupational status) and clinical variables (severity of tremor, presence of social phobia, LSAS-total fear, LSAS-total avoidance) that may contribute to disability in social life were evaluated by 2 different multiple linear regression analyses. The contribution of both severity of tremor and social avoidance to the difference in disability in social life between the groups was statistically significant ($\beta = 0.244$ $p = 0.034$, $\beta = 0.131$ $p = 0.023$, respectively). The effect of age, gender, duration of education, occupational status, social phobia, and level of social fear on the difference in disability in social life was not significantly predictive ($\beta = -0.0$ $p = 0.35$; $\beta = 0.68$ $p = 0.52$; $\beta = -0.04$ $p = 0.75$; $\beta = -0.96$ $p = 0.28$; $\beta = 0.55$ $p = 0.51$; $\beta = 0.00$ $p = 0.99$, respectively) (Tables 3 and 4).

DISCUSSION

Whilst the development of social phobia as a comorbid psychiatric disease in disorders like stuttering, spasmodic torticollis, and essential tremor, all of which negatively affect social interaction, is an anticipated situation, there are only a few number of studies on the prevalence of social phobia accompanying physical disorders. The prevalence of comorbid psychiatric diseases in essential tremor and the characteristics of patients with both disorders have not been studied sufficiently. In the present study, the prevalence of social phobia in essential tremor patients was 42.2%. Gündel et al. (2001) identified social phobia as the primary diagnosis in 41.3% of 116 patients who were referred for botulinum toxin treatment. In the

Table 4. The effects of the severity of tremor, presence of social phobia, and levels of social fear and social avoidance on disability in social life.

	Beta	SE	β	p	(39 patients)
Severity of tremor	.245	.110	.244	.034	
Presence of social phobia	.089	.842	.557	.513	
LSAS fear	.001	.061	.000	.997	
LSAS avoidance	.661	.055	.131	.023	

$R^2 = .590$. Corrected $R^2 = .542$.

study, it was seen that when compared to the control group drawn from the general population, the prevalence of social phobia in the patients was 10 times greater. Of the patients with social phobia, 80% reported that social anxiety had first occurred after the onset of spasmodic torticollis (Gündel et al., 2001). Stein et al. (1996) diagnosed social phobia in 75% of the adult stutterers who applied for speech therapy. In the same study, when the social phobia diagnosis were limited to those subjects whom showed excessive social anxiety in relation to the severity of stuttering, the rate of social phobia was observed to remain at 44%. In another study, Stein et al. (1990) established that 29% of patients with Parkinson's disease had social phobia. In a study conducted in Turkey, it was concluded that the level of social anxiety was high in psoriasis patients with lesions on the visible parts of the body, and that the level of social anxiety and the severity of the disease were correlated (Devrimci-Özgüven et al., 2000). Some studies have examined the prevalence of social phobia in patients with essential tremor. Schneier et al. (2001) determined the lifetime prevalence of social phobia in essential tremor patients to be at 32.7% and the current prevalence of social phobia as 22.4%. In earlier studies on the prevalence of social phobia, the lifetime prevalence was found to be at 2.8% (Regier et al., 1990). Other studies, which were conducted using DSM-III-R and DSM-IV criteria, found the prevalence of social phobia to be higher than the latter the social phobia rate was reported as 13.3% in a study by The National Comorbidity Survey in the USA, and as 16.1% in a study conducted in Switzerland (Magee et al. 1996, Wacker et al., 1992). The rates determined by Schneier et al. (2001) and the rate of 42.2% that we found in the present study were considerably higher than previously reported rates for social phobia in the

general population, as may be expected.

While the severity of tremor in the groups with and without social phobia in the present study was found to be similar, it was concluded that the patients with social phobia experienced more anxiety in performance and social interaction situations, and displayed more avoidance of such situations and activities. The patients with social phobia experienced more anxiety during eating, drinking, and writing, and avoided these activities more than those without social phobia. Total fear and total avoidance scores were also higher in social phobia patients. In addition, social lives and leisure activities of the essential tremor patients with social phobia were affected more than those without social phobia. These results reveal that a certain subgroup of essential tremor patients suffer more from social anxiety and display more disability in their social lives. It has been revealed that the severity of tremor and the level of social avoidance are predictive on the level of disability in the social lives of essential tremor patients with social phobia. This suggests that social phobia has a direct effect on disability. Being a chronic disorder with an early age of onset, and for which patients delay seeking treatment, social phobia is a condition leading to disability due to these characteristics (Brunello et al., 2000). In their study of 34 social phobia patients, Schneier et al. (1994) established that patients reported moderate or severe impairment due to social anxiety and avoidance during their lifetimes.

The results of our study do not support the DSM approach, which prohibits the diagnosis of social phobia for patients with physical disorders. This restriction of DSM has also been criticized in other studies. Gündel et al. (2000) maintained that in the presence of a stigmatizing physical problem, social phobia was expected to cause role impair-

ment and argued that the DSM approach lacks empirical support. In other studies, it was found to be appropriate to diagnose social phobia in people experiencing excessive social anxiety, discomfort, avoidance, and functional impairment due to physical conditions (Gündel et al. 2000). It was argued that in adult stutterers, the restriction of diagnosis of social phobia might create a misconception that social phobia is a condition which always accompanies stuttering (Stein et al., 1996). Moreover, this restriction for the social phobia diagnosis might hinder these patients' access to treatment. Some patients suffering from both stuttering and excessive social anxiety have benefited from cognitive behavioral therapy (Stein et al., 1996). It was also suggested that in essential tremor cases, the treatment of patients with social phobia first occurring

after the onset of tremor could be different from that of primary social phobia, and that this group could respond better to beta-blockers and benzodiazepines (Schneier et al., 2001). The differences between primary and secondary social phobia appear to be a subject that requires further study. Furthermore there is a need for studies where the prevalence of social phobia in essential tremor patients should be determined by comparing with normal controls. The lack of a control group in the present study was a limitation.

Social phobia is a problem that may occur in some patients with essential tremor. Diagnosing these patients with social phobia, contrary to DSM recommendations, can be useful in facilitating their access to appropriate treatment.

REFERENCES

- American Psychiatric Association (1994) Diagnostic and Statistical Manual of Mental Disorders, 4th ed. American Psychiatric Association, Washington DC.
- Brunello N, den Boer JA, Judd LL et al. (2000) Social phobia: diagnosis and epidemiology, neurobiology and pharmacology, comorbidity and treatment. *J Affect Disord*, 60: 61-74.
- Cersosimo MG, Koller WC (2004) Essential tremor. *Movement Disorders*, 2. ed, RL Watts, WC Koller (Ed), New York. McGraw-Hill Medical Publishing, s. 442-444.
- Devrimci-Özgüven H, Kudakçı N, Boyvat A (2000) Psöriyazis hastalarında ikincil sosyal anksiyete. *Türk Psikiyatri Derg*, 11(2): 121-126.
- Deuschl G, Bain P, Brin M et al. (1998) Consensus statement of the movement disorder society on tremor. *Mov Disord*, 13 (Suppl. 3): 2-23.
- Dilbaz N (2001). Liebowitz sosyal kaygı ölçeği geçerlilik ve güvenilirliği. 37.Ulusal Psikiyatri Kongresi Özet Kitabı, İstanbul.
- Doğu O, Sevim S, Louis ED et al. (2002) Interrater reliability of the Turkish version of WHIGET tremor rating scale. *J Neurol Sci [Turk]*, 19(4): 4-10.
- Gündel H, Wolf A, Xidara V et al. (2001) Social phobia in spasmodic torticollis. *J Neurol Neurosurg Psychiatry*, 71: 499-504.
- Louis ED (2005) Essential Tremor. *Lancet Neurol*, 4: 100-110.
- Magee WJ, Eaton WW, Wittchen HU et al. (1996) Agoraphobia, simple phobia and social phobia in the National Comorbidity Survey. *Arch Gen Psychiatry*, 53: 159-168.
- Oberlander EL, Schneier FR, Liebowitz MR (1994) Physical disability and social phobia. *J Clin Psychopharmacol*, 14:136-143.
- Regier DA, Narrow WE, Rae DS (1990) The epidemiology of anxiety disorders: The Epidemiologic Catchment Area (ECA) experience. *J Psychiatry Res*, 24 (Suppl. 2): 3-14.
- Schneier FR, Heckelman LR, Garfinkel R et al. (1994) Functional impairment in social phobia. *J Clin Psychiatry*, 55: 322-331.
- Schneier FR, Barnes LF, Albert SM et al. (2001) Characteristics of social phobia among persons with essential tremor. *J Clin Psychiatry*, 62: 367-372.
- Sheehan D (1984) The anxiety disease and how to overcome it. New York. Scribner.
- Sorias S, Saygılı R, Elbi H et al. (1988) DSM-III-R yapılandırılmış klinik görüşmesi Türkçe versiyonu: SCID. İzmir, Ege University Press.
- Stein MB, Baird A, Walker JR et al. (1996) Social phobia in adults with stuttering. *Am J Psychiatry*, 153: 278-280.
- Stein MB, Heuser IJ, Juncos JL et al. (1990) Anxiety disorders in patients with Parkinson's disease. *Am J Psychiatry*, 147: 217-220.
- Wacker HR, Müllejäns R, Klein KH et al. (1992) Identification of cases of anxiety disorders and affective disorders in the community according to ICD-10 and DSM-III-R by using the Composite International Diagnostic Interview (CIDI). *Int J Methods Psychiatr Res*, 2: 91-100.