

Jean-Pierre L epine · Joseph Lellouch

Classification and epidemiology of social phobia

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Abstract The individualization of social phobia among other phobic disorders is very recent, although previous clinical descriptions can be found in the literature. The new classifications (DSM-III, DSM-IV and ICD-10) have provided operationalized criteria for this disorder, which have allowed researchers to conduct epidemiological studies. However, some diagnostic issues are not completely solved, namely, those with other boundary disorders. Cross-cultural prevalence and risk factors of social phobia are reviewed. Results of a French community study have found a lifetime prevalence rate of 2.1% in males and 5.4% in females. Comorbidity of social phobia with other anxiety disorders and major depression was high. Suicidal tendencies, family history and health services utilization were analyzed according to the lifetime comorbidity pattern of social phobia and depression.

Key words Social phobia · Diagnosis · Epidemiology
Comorbidity

Introduction

Phobias are an important field of study with regard to epidemiological research, but until recently, all of them were analyzed mostly as a unique group of disorders. In the pioneer work of Janet (1903), a classification of phobias in four groups was introduced: body, objects, situations and ideas. Among the situational phobias, another important distinction was made between physical situations (e.g. agoraphobia, height phobia, claustrophobia) and social-situation phobias (e.g. erythrophobia, dysmorphophobia,

phobias of specific aspects of the body or face, servant or marriage phobias). Regarding social phobia, and as quoted by Marks (1987) gaze aversion was recognized in 1879 by Beard, who wrote, "This form of morbid fear is often accompanied with turning away of the eyes and hanging down of the head... In some cases I hold the head of the patient between my hands, so as to bring his face opposite mine, and even then he will involuntarily turn away his eyes".

More recently, the concept of social anxiety was analyzed by Dixon et al. (1957) and Marks and Gelder (1966), who proposed an individualization of social phobia from other forms of phobias. The subdivisions of phobias are based on empirical findings mostly due to Marks, who delineated four subtypes of phobias: agoraphobia, social phobia, animal phobia and specific phobias. Most of the research has been devoted to agoraphobia, and to a much lesser extent, social phobia. From a clinical sample, some distinctions with agoraphobia were pointed out: a different symptomatic profile, an earlier age of onset and a gender ratio with a less preponderant rate of women (Marks 1970; Amies et al. 1983; Solyom et al. 1986). However, until the DSM-III classification this subtype was not specifically taken into account in clinical, epidemiological and therapeutic studies. The revisions of the international classifications of mental disorders have provided operationalized diagnostic criteria for social phobia, allowing a more precise definition of cases that preclude all epidemiological studies.

Classifications

In line with the clinical findings, the DSM-III classification made a clear distinction between agoraphobia, social phobia and simple phobia, and formalized diagnostic criteria that excluded another mental disorder such as major depression or, more importantly for social phobia, avoidant personality disorder. The revised classification (DSM-III-R) extended the criteria of the disorders, gave more examples of the situations that are avoided or distressing and

Jean-Pierre L epine (✉)
Department of Psychiatry,
Hopital Fernand Widal, 200 rue du Faubourg Saint Denis,
F-75475 Paris Cedex 10, France

Joseph Lellouch
INSERM Unit  169, 16 Avenue Paul Vaillant Couturier,
F-94807 Villejuif Cedex, France

Table 1 Social phobia (social anxiety disorder) adapted from DSM-IV

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- A. Marked and persistent fear of one or more social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. The individual fears that he or she will act in a way (or show anxiety symptoms) that will be humiliating or embarrassing
 - B. Exposure to the feared social situation almost invariably provokes anxiety
 - C. The fear is recognized by the person as excessive or unreasonable
 - D. The feared social or performance situations are avoided, or else endured with intense anxiety or distress
 - E. Interference with everyday activities or marked distress about having the phobia
 - F. In individuals under age 18 years, the duration is at least 6 months
 - G. The fear or avoidance is not due to the direct effects of a substance or a general medical condition, and is not better accounted for by another disorder
 - H. The fear is not related to a general medical condition or other mental disorder if present
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made a recommendation to specify the type of phobia as generalized if the avoidance includes most social situations.

Avoidant personality disorder may be considered, if present, as an additional diagnosis. More importantly, as a general rule of the DSM-III-R, the exclusion criteria were not so stringent, allowing determination of that type of diagnosis together with other diagnoses in a nonhierarchical way and, thus, increasing the possibility of comorbid diagnosis in the same subject or patient.

In the most recent DSM-IV classification (Table 1), social phobia (or social anxiety disorder) is defined as a marked and persistent fear of social or performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others and fear of being humiliated or embarrassed. Exposure to these situations provokes anxiety; thus, these situations are avoided or endured with intense anxiety. The person recognizes that the fear is excessive or unreasonable, and the avoidance or distress interfere with the subject's functioning, social activities or relationships.

In the ICD-10 (Table 2), social phobia is part of the phobic disorders section and requires either a marked fear or avoidance of being the focus of attention or behaving in an embarrassing or humiliating way in social situations. Symptoms of anxiety occurring in the feared situation are those described in the symptoms listed in agoraphobia with the addition of specific symptoms (e.g. blushing or shaking, fear of vomiting, urgency or fear of micturition or defecation). There is a significant emotional distress due to the symptoms, or to the avoidance, which are recognized as excessive and unreasonable. Symptoms are restricted to, or predominate in, the feared situation or when thinking about it, and are not due to other symptoms or disorders (e.g. psychotic, affective, obsessive – compulsive disorders or cultural beliefs).

Table 2 Social phobia: ICD-10 diagnostic criteria for research

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- A. Either of the following must be present:
 - Marked fear of being the focus of attention, or fear of behaving in a way that will be embarrassing or humiliating
 - Marked avoidance of being the focus of attention, or of situations in which there is fear of behaving in an embarrassing or humiliating way
- These fears are manifested in social situations such as eating or speaking in public, encountering known individuals in public or entering or enduring small group situations (e.g. parties, meetings, classrooms)
- B. At least two symptoms of anxiety in the feared situation as defined in criterion B for agoraphobia must have been manifested at some time since the onset of the disorder, together with at least one of the following symptoms:
 - Blushing or shaking
 - Fear of vomiting
 - Urgency or fear of micturition or defecation
 - C. Significant emotional distress is caused by the symptoms or by the avoidance, and the individual recognizes that these are excessive or unreasonable
 - D. Symptoms are restricted to, or predominate in, the feared situation or contemplation of the feared situations
 - E. Most commonly used exclusion clause: The symptoms listed in criteria A and B are not the results of delusions, hallucinations or other disorders such as organic mental disorders, schizophrenia and related disorders, mood disorders or obsessive-compulsive disorder, and are not secondary to cultural beliefs.
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Despite these definitions, some diagnostic problems still remain regarding a more precise delineation with avoidant personality, which has been considered either as an exclusion diagnosis or a concomitant or comorbid diagnosis (Greenberg and Stravynski 1983; Liebowitz et al. 1985). Furthermore, the validity of different subtypes of social phobias (e.g. generalized, specific, performance anxiety) remains disputed.

Cross-cultural prevalence and risk factors

During the past decade, epidemiological studies conducted in the general population have provided data about the prevalence and risk factors of social phobia. In a recent review of epidemiological studies of anxiety disorders, Wittchen and Essau (1993) have reported a lifetime prevalence ranging from 0.3% in Upper Bavaria to 3.2% in Durham; however, it should be noted that some studies have found even higher rates of the disorder.

Presently, in surveys that have been done in different countries the lifetime prevalence of social phobia ranges from 0.4 to 16.0% as shown in Table 3. These results deserve a few comments. Most of the studies have found a rate between 2 and 4%. In Florence, Italy, the prevalence seems to be lower but, in fact, the definition of a case was done by using a hierarchical procedure that may have lowered the observed rate. Two studies have found a much higher rate of social phobia (Wacker et al. 1992; Kessler et al. 1994). Both of them used the most recent CIDI Core interview and refer to the DSM-III-R classifi-

Table 3 Lifetime prevalence of social phobia. ECA epidemiologic catchment area

Location	Males	Females	Total	Reference
ECA (weighted to the United States)	2.5	2.9	2.7	Eaton et al. (1991)
ECA (four sites)	2.0	3.1	2.4	Schneier et al. (1992)
Saint Louis			1.9	Schneier et al. (1992)
Baltimore			3.1	Schneier et al. (1992)
Los Angeles			1.8	Schneier et al. (1992)
Durham			3.2	Schneier et al. (1992)
Duke			3.8	Davidson et al. (1993)
National Comorbidity Survey	11.1	15.5	13.3	Kessler et al. (1994)
Puerto Rico	1.5	1.6	1.6	Canino et al. (1987)
Edmonton	1.4	2.0	1.7	Bland et al. (1988)
Paris	2.1	5.4	(4.1)	Lépine et al. (1993)
Zurich				
Pure social phobia	3.1	4.4	3.8	Degonda and Angst (1993)
With agoraphobia	0.4	2.7	1.6	
Basel			16.0	Wacker et al. (1992)
Munich			2.5	Wittchen et al. (1992)
Florence			1.0	Faravelli et al. (1989)
Christchurch	4.3	3.0	3.5	Wells et al. (1989)
Seoul	0.0	1.0	0.5	Lee et al. (1990)
Taiwan				
Metropolitan	0.2	1.0	0.6	Hwu et al. (1989)
Small towns	0.6	0.5	0.5	
Rural villages	0.4	0.5	0.4	

cation. Furthermore, the National Comorbidity Survey was conducted in 1990–1992 on persons aged 15–54 years; therefore, a younger age effect or secular trends explaining the higher rate cannot be ruled out. Another intriguing result is the much lower rate found in Asia both in Seoul (Lee et al. 1990 a,b) and in Taiwan (Hwu et al. 1989). These rates raise the question of either a cultural bias of response in different populations or true psychopathological cross-cultural differences.

In the United States, as part of the Epidemiologic Catchment Area (ECA) program, Schneier et al. (1992) have found a 2.4% lifetime rate of DIS/DSM-III social phobia. Rates were higher in females, in the youngest age group and in less-educated, single, lower socioeconomic-class subjects. The mean age of onset was 15.5 years with a bimodal distribution. The most common comorbid disorders were other phobic disorders. Other features of social phobia were assessed in the North Carolina site in Duke (Davidson et al. 1993). The results have suggested a greater impairment during the developmental years, more maternal psychiatric disorder and early separation of parents. An increased risk of suicide attempts has been found in social phobia, but was associated with comorbidity with other disorders. An increased medical comorbidity with neurological disorder has also been reported.

In the Zurich study, Angst (1992a) found a lifetime prevalence rate until age 30 years for DSM-III social phobia of 4.9% and have stressed that, concerning comorbid-

ity, agoraphobia was more closely associated with social phobia (OR 16.7) than with DSM-III panic disorder (OR 5.3). (The OR for social phobia with panic disorder was 3.5 (CI 1.5–8.1). The OR with major depression was 2.5 (CI 1.4–4.7; Angst 1992b). Further analyses found that social phobia was associated also with simple phobia, extended insomnia and alcohol abuse (Degonda and Angst 1993). Regarding the course of phobic disorders over 10 years and at four interviews, the diagnoses were not stable; however, symptoms seemed to be more stable over time.

In Basel, Switzerland, Wacker et al. (1992), of 470 subjects representative of the 18–65 years of the general population, found a lifetime prevalence rate of 16.0% for DSM-III-R and only 9.6% for ICD-10. Discrepancies between these two rates underscore the importance of a precise wording of diagnostic criteria. Among the 21 subjects DSM-III-R positive for social phobia, but ICD negative, 12 did not meet criterion C for the disorder (significant emotional distress due to the symptoms or the avoidance, and a recognition that these are excessive and unreasonable) and 6 did not meet criterion B of this disorder (symptoms of anxiety in the feared situation). The only DSM-III-R negative that was ICD-10 positive suffered from a strong unreasonable fear of a specific social situation that is not listed in DSM-III-R, but is included in ICD-10 (talking in front of a small group of people). This study underscored the importance of case definition and the discrepancies between the two main classification systems.

Furthermore, the results suggest that regarding social phobia, DSM-III-R criteria may be more inclusive than ICD-10 criteria.

Few studies have investigated the prevalence rates of social phobia in preadolescent children and adolescents and have found a rate of 0.9–1.1% (Benjamin et al. 1990; Anderson et al. 1987; McGee et al. 1990; Kashani and Orvaschel 1990). Mostly due to the very little number of subjects found in these surveys, the gender ratio is very different from one study to another, and no firm conclusion can be drawn. In a more recent study of adolescents with a mean age of 17.9 years, a 22.8% lifetime prevalence was reported for simple and social phobia (Reinherz et al. 1993). Among them, 51% met criteria for social phobia only, and 13% met criteria for both simple and social phobia. Interestingly, the authors did not find any gender differences in that group of subjects.

A French community study of social phobia

As part of a general population survey conducted in 1987–1988 in a newly built town located near Paris, we assessed the rates, risk factors and comorbidity of social phobia.

Subjects and methods

The design was a household survey in which, from each sampled household, one adult aged 18 years or over was selected. The instruments used in that study were a self-administered questionnaire covering sociodemographic and education characteristics, use of health facilities during the past year, current health problems and use of drugs during the week preceding the interview, as well as a structured interview including a modified version of the Diagnostic Interview Schedule/Composite International Diagnostic Interview (DIS/CIDI; Robins et al. 1988) and limited to the major depression, agoraphobia, social and simple phobia, panic disorder and generalized anxiety disorder sections. The interview was conducted at the subject's home by a psychologist or sociologist interviewer specially trained in the use of the interview. More details have been given in previous papers (Lépine et al. 1989, 1993a; Pariente et al. 1992).

A total of 2817 households were contacted with 1787 acceptances, 979 refusals and 51 exclusions because of incomplete data and language problems. Because comorbidity with depression has a major role in most of the risk factors observed, for some comparisons we subdivided our sample into four groups: social phobia without lifetime depression ($n = 40$), major depression without lifetime social phobia ($n = 281$), lifetime comorbid phobia and depression ($n = 33$) and a control group excluding subjects with either agoraphobia, panic disorder and/or generalized anxiety disorder ($n = 1254$).

Prevalence and sociodemographic factors

The lifetime rates for social phobia were 2.1% in males and 5.4% in females, with a female/male ratio of 2:1 at variance with other studies. The 1-year prevalence was 1.2% in males and 2.9% in females. Regarding the symptomatic profile of social phobia, the majority of subjects had a fear of speaking to strangers or meeting new people (54.8%). Fears of speaking in front of a group or eating in front of people were less frequent (35.6 and 15.1%, respectively).

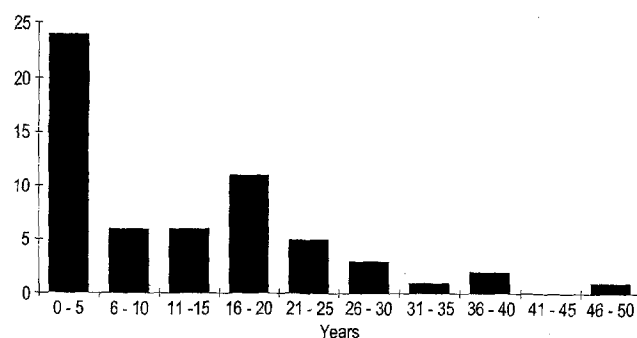


Fig. 1 Age of onset of social phobia (years)

Table 4 Comorbidity of social phobia with other anxiety disorders

	Males ($n = 658$) OR	Females ($n = 1088$) OR
Agoraphobia	1.4	5.0
Simple phobia	9.4	3.5
Panic disorder	29.0	3.8
Generalized anxiety disorder	6.2	3.2

The rates by age were higher in the younger age group (5.3% in the 18–29 years group) as compared with the 30–44 years age group (4.2%) and the 45–64 years age group (2.6%). We did not find any case of social phobia in the subjects older than 65 years. Rates were slightly higher in the widowed, divorced or separated subjects (5.0%) than in married (4.1%) or never married (3.4%). However, an increased risk was found in the widowed, separated or divorced subjects only in the comorbid group of social phobia with depression both in males (OR 5.5; 95% CI 1.0–29.6) and in females (OR 3.4; 95% CI 1.2–9.5), and not in the social-phobia-without-depression group. According to the educational level, rates were higher in subjects with less than 12 years of schooling (4.8%) than in subjects with a higher educational level (2.3%).

Age of onset

Age of onset was available in 60 subjects, and in 4 subjects, no further precision could be obtained, but they reported that social phobia occurred before 40 years of age. Only 1 subject, a female, reported an age of onset at 50 years; 24 reported that social phobia had been present during their whole life. We found a small peak at the interval 16–20 years. Most of the subjects had an onset before the age of 25 years. Among those reporting an age of onset or an enduring condition during their whole life, the median age of onset was 10.5 years (Fig. 1).

Comorbidity

The comorbidity of social phobia with other anxiety disorders was high in males as well as in females (Table 4). In females the highest OR was observed with agoraphobia.

Concerning comorbidity of social phobia with depression, 45.2% of social phobics had presented at some time during their life at least one episode of major depression. The OR was higher in males (12.5; 95% CI 4.19–37.1) than in females (2.72; 95% CI 1.59–4.66).

Regarding an indicator of alcoholism, the respondents were asked whether their doctor had advised them to cut down on alcohol. We did not find any differences between social phobics and controls.

Table 5 Suicidal-tendency rate per 100 subjects in social phobia and depression by gender and lifetime comorbidity

	Males				Females			
	Social phobia and MDE	Social phobia without MDE	MDE without social phobia	Controls	Social phobia and MDE	Social phobia without MDE	MDE without social phobia	Controls
Wanted to die	37.5	–	27.4	1.1	32.0	14.7	37.9	2.8
Wanted to commit suicide	75.0	20.0	48.4	5.9	44.0	17.7	40.6	7.1
Suicide attempt	62.5	–	8.1	1.3	16.7	12.1	21.5	2.2

MDE major depressive episode

Table 6 Family-history-of-psychological-problems rate per 100 subjects in social phobia and depression by gender and lifetime comorbidity

	Males				Females			
	Social phobia and MDE	Social phobia without MDE	MDE without social phobia	Controls	Social phobia and MDE	Social phobia without MDE	MDE without social phobia	Controls
Depression	66.7	16.7	36.0	21.8	52.6	30.4	37.0	26.5
Mental problems	14.3	–	14.8	7.1	22.7	–	13.8	8.0
Suicide	14.3	–	–	2.7	–	–	4.5	2.2
Suicide attempt	16.7	–	7.4	5.7	39.1	7.4	12.8	7.4
Alcoholism	28.6	–	1.9	4.0	13.6	10.3	10.8	7.4

Table 7 Health services utilization and drug-use rate per 100 subjects social phobia and depression by gender and lifetime comorbidity

	Males				Females			
	Social phobia and MDE	Social phobia without MDE	MDE without social phobia	Controls	Social phobia and MDE	Social phobia without MDE	MDE without social phobia	Controls
Hospitalization during past year	16.7	–	11.5	10.3	26.3	23.3	22.0	9.3
Psychiatrist consultation during past year	–	16.7	17.9	1.7	13.0	–	6.5	0.9
Drug use during past week								
Psychotropics	–	16.7	17.7	2.7	32.0	11.8	19.6	5.9
Analgesics	25.0	50.0	9.7	14.4	12.0	29.4	26.5	23.5

Suicidal tendencies

The rate of suicidal ideation was significantly elevated in subjects with social phobia as compared with controls. In fact, the structured diagnostic interview assessed suicidal tendencies by asking respondents three questions:

1. Has there ever been a period of 2 weeks or more when you felt like you wanted to die?
2. Have you ever felt so low that you thought about committing suicide?
3. Have you ever attempted suicide?

Among all social phobics, 21.9% had at some time wanted to die (OR 13.2; 95% CI 6.7–25.9), 33.3% had wanted to commit suicide (OR 7.1; 95% CI 4.1–12.2) and 18.6% had attempted suicide (OR 12.2; 95% CI 5.85–12.2).

As shown in Table 5, comorbidity with depression explains most of the increased rate suicidal tendencies in both gender. However, in female social phobics without comorbid depression, we found an increased risk of having desired death (OR 5.9; 95% CI 2.1–16.8) or wanted to commit suicide (OR 2.8; 95% CI 1.1–7.1) and the rate of history of suicide attempts was increased as compared with controls (OR 6.1; 95% CI 1.9–19.4).

Family history

Regarding events during childhood, we asked subjects about any separation by death or other form from either mother or father, or both, before 16 years of age. We did not find any differences in both gender in social phobics as compared with non-social phobics.

As compared with controls, a family history of depression as well as suicide attempts and alcoholism (OR 3.4; 95% CI 1.7–6.6, and OR 2.3; 95% CI 1.1–5.1, respectively) was reported more often in social phobics (OR 2.1; 95% CI 1.7–6.6). Taking into account the comorbidity pattern with depression, we no longer found any association with alcoholism, depression and suicide attempts in social phobics without depression. However, regarding a family history of depression, the risk was increased in social phobics with depression as compared with social phobics without depression (OR 3.3; 95% CI 1.1–10.4). There was also a higher risk of a family history of suicide attempts in social phobics with depression as compared with social phobics without depression (OR 8.2; 95% CI 1.6–41.3) as well as subjects with depression but without social phobia (OR 4.0; 95% CI 1.7–9.5).

Table 6 shows the family-history rate of psychological problems analyzed by gender and comorbidity with depression. In males with social phobia and depression, an increased risk of a family history of depression (OR 7.2; 95% CI 1.3–39.8) and alcoholism (OR 9.7; 95% CI 1.8–53.0) was found as compared with

controls. In females there was no association with a family history of alcoholism. The family rate of depression (OR 3.1; 95% CI 1.2–7.7) and mental problems requiring a hospitalization (OR 4.3; 95% CI 1.2–15.6) was increased in the comorbid group (i.e. social phobics with depression) as compared with the control group, but without any statistical differences with the depression-without-social-phobia group. Regarding the family history of suicide attempts, in the female comorbid group the risk was increased as compared with controls (OR 8.0; 95% CI 3.3–19.5) as well as when compared with the depression-without-social-phobia group (OR 4.4; 95% CI 1.7–11.2).

Health services utilization

Among female social phobics, 24.5% reported having been hospitalized during the previous year. (We did not ask specific questions to know whether this hospitalization took place in a psychiatric clinic or a general hospital). The risk was increased both in social phobics with depression (OR 3.5; 95% CI 1.2–10.1) and without depression (OR 3.0; 95% CI 1.2–7.3) as compared with controls, and in approximately the same range as in depression without social phobia (Table 7). In males we did not find any differences.

Concerning mental health services, 8.3% of male and 5.8% female social phobics reported having consulted a psychiatrist during the past year. We found a higher rate of psychiatric consultation in females as compared with controls (OR 6.4; 95% CI 1.6–26.5). However, this finding is true only in the comorbid group with depression; there was no subject who consulted in the social-phobia-without-depression group.

The rate of psychotropic drug use during the week preceding the interview was 17.8% with an increased risk as compared with controls both in the social-phobia-with-depression group (OR 6.7; 95% CI 2.9–15.6) and the social-phobia-without-depression group (OR 3.0; 95% CI 1.1–7.9). Analyzing results by gender, there was no statistical differences in males. Psychotropic drug use was higher in females with social phobia (20.3 vs 9.5%; $P < 0.007$), but the increased rate was found only in the comorbid social-phobia-with-depression group (OR 6.7; 95% CI 2.9–15.6).

Discussion

The prevalence rates found in our study were approximately the same as the observed rates in other studies, except in Basel and in the National Comorbidity Survey, in which higher rates have been reported. Discrepancies may suggest methodological differences in the assessment of social situations and the level of distress and impairment. In epidemiological studies, these rates have been found to be higher in females than in males, but to a lesser extent than for other phobic disorders. The age of onset of social phobia is mainly in the early teenage years, at variance with an earlier age of onset in simple phobia and a later one in agoraphobia as reported in several studies (Thyer et al. 1985; Ost 1987; Burke et al. 1990; Lépine et al. 1993b).

As in our study, comorbidity of social phobia with other anxiety disorders has been consistently found mostly with other phobic disorders (Schneier et al. 1992; Davidson et al. 1993; Degonda and Angst 1993). Lifetime comorbidity with depression varies widely among different studies, from 14.6 to 16.6% in the ECA studies (Schneier et al. 1992; Davidson et al. 1993) to 42.3% in social phobia and 45.0% in comorbid agoraphobia and social phobia in the Zurich study (Degonda and Angst 1993)

and 45.2% in our study. A high rate of suicide attempts has been found in social phobics, but it seems mostly associated with the comorbidity with other disorders (Davidson et al. 1993). Social phobics seek treatment slightly more often than subjects without any disorder (Schneier et al. 1992), but on that point the impact of comorbidity also has a major influence.

Family studies of social phobia have shown that social phobia tend to aggregate in families (Merikangas and Angst 1993). In our study, we did not assess the family history of social phobia in relatives, but we found in social phobics comorbid with depression, a high rate of family history of depression, suicide attempts and alcoholism, which may suggest a more severe form of this comorbid group.

In conclusion, even if social phobia is less frequent than other phobic disorders, the importance of comorbidity with other disorders and its role in morbidity is well established and requires more data. Social phobia is a life-long disorder with an early age of onset and a symptomatic persistence over time. Furthermore, major questions concerning the aetiology, natural history and outcome of this disorder need to be addressed in epidemiological studies.

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