Suicidal Ideation and Suicide Attempts in Panic Disorder and Social Phobia

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Objective: *Using the original National Institute of Mental Health Epidemiologic Catchment Area (ECA) suicide questions in a clinical setting and including a comparison group of patients with social phobia, the authors attempted to replicate the finding of Weissman and associates of a greater risk of suicidal ideation and suicide attempts associated with panic disorder.* *Method:* *One hundred six patients with panic disorder and 41 patients with social phobia answered the five ECA suicide questions and completed a psychometric assessment package at an anxiety disorders clinic.* *Results:* *Thirty-three (31%) of the patients with panic disorder and 14 (34%) of the patients with social phobia reported suicidal ideation in the past year, but only one of the patients with panic disorder and two of the patients with social phobia actually made suicide attempts in the past year. Nineteen (18%) of the patients with panic disorder and five (12%) of the patients with social phobia reported making suicide attempts at other times in their lives. Patients who had made past suicide attempts were significantly more likely to report previous psychiatric hospitalizations and past treatment for depression than were patients who had never attempted suicide.* *Conclusions:* *These results are consistent with the findings of Weissman and associates that a large proportion of individuals with panic disorder report suicidal ideation. However, many patients with social phobia also reported suicidal ideation, and few individuals in either diagnostic group had actually made recent suicide attempts. Although 12%–18% of the patients reported lifetime suicide attempts, there is evidence to suggest that these were in the context of depressive symptoms.*

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The relationship between suicide and panic remains a controversial one. Using data from the National Institute of Mental Health Epidemiologic Catchment Area (ECA) study, Weissman et al. (1) found that 20% of community-dwelling adults who had a lifetime DSM-III diagnosis of panic disorder (N=254) reported suicide attempts, compared with only 6% of individuals with other psychiatric disorders and 1% of individuals with no psychiatric disorder. In addition, 47% of individuals with panic disorder reported suicidal ideation and 64% reported that they "thought a lot about death." Weissman et al. concluded that panic disorder and panic attacks were associated with a greater risk of suicidal ideation and suicide attempts and cautioned that physicians should be alert to this problem.

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After further analyses of the same data to examine the influence of comorbidity, Johnson et al. (2) determined that the rate of suicide attempts among individuals with panic disorder who had comorbid major depression was 19.5%, compared with 7.0% among individuals with uncomplicated panic disorder. The rate among individuals with uncomplicated panic disorder was comparable to the rates of suicide attempts in other psychiatric disorders—6.0%—and uncomplicated major depression—8%. A rate of 7.0% is still higher than the rate of suicide attempts in the general population, however.

In another ECA-based study, Schneier et al. (3) reported that the rate of suicidal ideation in uncomplicated cases of social phobia (9.8%) and the rate of suicide attempts in cases of social phobia with comorbid illness (15.7%) were higher than the rates in individuals with no psychiatric disorder.

In a review on this topic, Noyes (4) reported that the ECA results were consistent with earlier data showing excess mortality among patients with panic disorder (5). However, comorbid depression and substance abuse seemed to account for many of the findings. Noyes (4) concluded that the risk of suicide in panic

disorder was substantial and that "clinicians should alert themselves to this preventable outcome and approach treatment with added caution" (p. 1). Both Johnson et al. (2) and Noyes (4) have noted that suicidal tendencies in panic disorder, especially past suicidal ideation and attempts, may be underreported because clinicians do not inquire about them. A Swedish study on causes of death in a large sample of inpatients with "pure" anxiety neurosis (6) (based on ICD-8-R criteria) also found a significantly higher rate of suicide in these patients than in the general population. Finally, a Canadian epidemiologic study (7) that was similar in design to the ECA study found that panic disorder was a significant risk factor for suicide attempts in women but not in men.

Some support for the ECA findings based on studies of patients with panic disorder comes from data collected at an anxiety disorders clinic in Paris (8–10). Lepine et al. (10) found that 42 of 100 patients with panic disorder had a history of suicide attempts, but individuals who attempted suicide were significantly more likely to have a lifetime diagnosis of major depression and/or substance abuse. Suicide attempts were also common (17%) among "uncomplicated" patients with panic disorder, but many of these patients in fact had a history of major depressive episode except for the 2-week duration requirement.

Other studies using patients with panic disorder seeking treatment have failed to replicate the ECA-based results. Beck et al. (11) found that none of 73 patients with panic disorder and 1.3% of patients with panic disorder and agoraphobia reported they had made suicide attempts in their lifetime (assessed during a clinical interview). These patients scored significantly lower on a self-report measure of suicidal ideation than did patients with mood disorders. None of the patients with panic disorder had a comorbid diagnosis of depression. In discussing the discrepancy between their results and those of Weissman et al. (1), Beck et al. (11) noted that the ECA study used lay interviewers to determine lifetime diagnoses, and depression may have been underdiagnosed in the individuals with panic.

Friedman et al. (12) investigated suicidal ideation and suicide attempts in a retrospective review of clinical interview and chart data from 234 patients with panic disorder and 59 patients with panic disorder plus borderline personality disorder. The patients with panic disorder plus borderline personality disorder were significantly more likely than the patients with panic disorder without borderline personality disorder to have suicidal ideation, suicide attempts, and a history of alcohol and/or drug abuse. The history of suicide attempts in patients with panic disorder without borderline personality disorder was only 2.0%.

Finally, Mannuzza et al. (13) studied the relationship between panic and suicide in 847 relatives of patients in an anxiety clinic and their acquaintances. All subjects were assessed by structured interview as part of a family study. Although individuals with panic disorder were more likely to have attempted suicide than were subjects with no mental disorder, most of the attempts occurred several years prior to the onset of panic, usually in the context of a mood or substance use disorder.

Two recent studies have investigated the prevalence of specific DSM-III-R diagnoses in suicidal individuals. Rudd et al. (14) evaluated 209 outpatients with suicidal behavior and found that panic disorder was not an independent risk factor. Along with other anxiety disorders, panic disorder was a risk factor only when it coexisted with a mood disorder. Similarly, in a "psychological autopsy" of 229 suicide victims, Henriksson et al. (15) found that only 1% had an anxiety disorder as a principal diagnosis.

The present study is the first to our knowledge to use the original ECA questions (1) in a group of consecutive patients with panic disorder seeking treatment. Patients with social phobia from this same clinic were chosen as comparison subjects. By using the ECA questions in a self-report format and not relying on retrospective chart reviews, we hoped to avoid the possible confound of clinician underreporting discussed by Noyes and others.

METHOD

Subjects

The subjects of the study were 106 patients with panic disorder (35 men and 71 women); their mean age was 34.35 years (SD=9.95). The comparison subjects were 41 patients with social phobia (22 men and 19 women); their mean age was 30.47 years (SD=7.50). Forty-three of the patients with panic disorder had a comorbid DSM-III-R axis I disorder, including 18 patients who had a comorbid diagnosis of social phobia, five with major depression, and four with substance abuse. Eleven of the patients with social phobia had a comorbid DSM-III-R axis I disorder, including two patients who had comorbid panic disorder and two with substance abuse. None of the patients with social phobia had a comorbid diagnosis of major depression. Three additional patients with panic disorder reported that they had not attempted suicide in the past year but did not provide information on lifetime suicide attempts and were therefore not included in the study because of these missing data.

Materials and Procedures

All patients were consecutive referrals to an anxiety disorders clinic. Most were diagnosed by a psychiatrist and some were diagnosed by a doctoral-level psychology student following a 1–2-hour clinical interview that incorporated questions on mood and anxiety disorders from the Structured Clinical Interview for DSM-III-R (SCID) (16). Diagnoses were based on DSM-III-R criteria. All interviewers had formal training and experience with the SCID, which is often used for treatment study protocols at this clinic.

Approximately one-third of the patients originally referred to the clinic were screened by telephone before they were seen in the clinic and were referred elsewhere if there was strong evidence of current major depression or substance abuse. These patients were not included in the study. None of the patients was screened for suicidal ideation or attempts. In regard to comorbidity issues, the anxiety disorder was considered the primary diagnosis according to the order of onset of disorders as well as the clinical significance of the presenting problems. Primacy of the diagnosis of panic disorder over social phobia was determined in the same fashion.

All patients completed a psychometric package as part of their assessment and gave signed consent that the information could be used

TABLE 1. Positive Responses to ECA Suicide Questions[a] Among 106 Patients With Panic Disorder and 41 Patients With Social Phobia

Suicide Question	Patients With Panic Disorder Who Said Yes		Patients With Social Phobia Who Said Yes		χ^2 (df=1)[b]
	N	%	N	%	
"Thought a lot about death" in past year	56	52.8	17	41.5	1.53
"Felt like you wanted to die" in past year	44	41.5	16	39.0	0.08
"Felt so low, thought about committing suicide" in past year	33	31.1	14	34.1	0.12
Attempted suicide in past year	1	0.9	2	4.9	2.29
Attempted suicide at some other time in life	19	17.9	5	12.2	0.71

[a]Suicide questions reported by Weissman et al. (1).
[b]All p values were nonsignificant.

for research purposes. Measures included the Fear Questionnaire (17), Beck Depression Inventory (18), Beck Anxiety Inventory (19), and a revised version of the Panic Attack Questionnaire (20). The revised Panic Attack Questionnaire contains sections on past treatment for specific psychiatric complaints as well as the ECA suicide questions reported in the study by Weissman et al. (1). Suicide attempts were recorded both for the past year and for the patient's lifetime. Patients were also asked to provide written descriptions of their suicide attempts. Statistical tests included chi-square and t tests, and SPSS software was used.

RESULTS

Table 1 presents data on the responses of patients with panic disorder and patients with social phobia to the ECA suicide questions. Approximately one-third of both patient groups reported suicidal ideation over the past year when asked the ECA question of whether they "felt so low, thought about committing suicide." Although few patients reported making suicide attempts in the past year, 12% of the patients with social phobia and 18% of the patients with panic disorder reported a lifetime history of suicide attempts. There were no significant differences between the two anxiety disorder groups on any of the questions.

In the panic disorder group the prevalence of suicidal ideation was higher in women (35.2% [N=25]) than in men (22.9% [N=8]) (χ^2=1.67, df=1, n.s.). The lifetime prevalence of suicide attempts was higher in men (20.0% [N=7]) than in women (16.9% [N=12]) (χ^2=0.15, df=1, n.s.). In the social phobia group the prevalence of suicidal ideation was higher in women (47.4% [N=9]) than in men (22.7% [N=5]) (χ^2=2.75, df=1, p<0.10). The lifetime prevalence of suicide attempts was also higher in women (21.1% [N=4]) than in men (4.5% [N=1]) (χ^2=2.59, df=1, n.s.).

The patients' written descriptions of their suicide attempts were reviewed by a psychiatrist in a mood disorders clinic who was blind to the nature of the study. The descriptions were classified into the categories of serious (in terms of lethality), not serious, or unable to determine/insufficient information. For the 20 patients with panic disorder who provided such descriptions, eight (40%) of the attempts were rated as serious, four (20%) were rated as not serious, and the seriousness of eight (40%) could not be determined. For the seven patients with social phobia who provided such descriptions, two (29%) were rated as serious, two (29%) were rated as not serious, and the seriousness of three (43%) could not be determined.

Factors Associated With Suicidal Ideation and Suicide Attempts

Two sets of analyses were conducted to identify possible factors associated with suicidality in each of the patient groups. In the first set of analyses, comparisons were made between patients who reported suicide attempts, either in the past year or any time in their lives (20 patients with panic disorder and seven patients with social phobia) and those who reported no history of suicide attempts (86 patients with panic disorder and 34 patients with social phobia). These results are presented in table 2. In both groups of patients, those who had made suicide attempts were significantly more likely to report having received past treatment for depression as well as previous psychiatric hospitalizations (based on self-report) than were patients with no history of suicide attempts.

In the second set of analyses, comparisons were made between patients who reported thoughts of committing suicide in the past year (33 patients with panic disorder and 14 patients with social phobia) and those who did not report suicidal ideation (73 patients with panic disorder and 27 patients with social phobia). These results are presented in table 3. In both groups of patients, those who reported suicidal ideation had significantly higher scores on the Beck Depression Inventory than those who did not report suicidal ideation. Patients with social phobia who reported suicidal ideation were also significantly more likely to report past treatment for depression and previous psychiatric hospitalizations than were patients with social phobia who did not report suicidal ideation.

DISCUSSION

This study investigated the prevalence of suicidal ideation and suicide attempts in 106 patients with panic disorder and 41 patients with social phobia in a clinical setting by using the five original ECA questions. Based on earlier findings, some authors have argued that there is an acute suicidal risk associated with panic disorder (1, 4), but other researchers have countered that most suicide attempts were made in the past and/or in the context of a comorbid disorder such as major depression (11–14). The present results provide some support for both of these views but more support for the latter perspective.

TABLE 2. Characteristics of 106 Patients With Panic Disorder and 41 Patients With Social Phobia Who Did or Did Not Report Suicide Attempts

Characteristic	Patients With Panic Disorder							Patients With Social Phobia						
	Reported Suicide Attempt (N=20)[a]		Did Not Report Suicide Attempt (N=86)[a]		Analysis			Reported Suicide Attempt (N=7)[a]		Did Not Report Suicide Attempt (N=34)[a]		Analysis		
	N	%	*N*	%	χ^2	*df*	p	*N*	%	*N*	%	χ^2	*df*	*p*
Thought about committing suicide in past year	9	45.0	24	27.9	2.21	1	n.s.	7	100.0	7	20.6	16.28	1	0.001
Female	13	65.0	58	67.4	0.04	1	n.s.	6	85.7	13	38.2	5.26	1	0.02
Past treatment for depression[b]	14	70.0	35	41.2	5.40	1	0.02	7	100.0	11	33.3	10.37	1	0.001
Past treatment for anxiety[c]	16	84.2	64	76.2	0.57	1	n.s.	7	100.0	26	76.5	2.05	1	n.s.
Past treatment for substance abuse[d]	1	5.6	5	6.2	0.01	1	n.s.	2	28.6	3	9.1	2.00	1	n.s.
Moderate or severe levels of agoraphobia	16	80.0	39	45.3	7.80	1	0.005							
Previous psychiatric hospitalizations	10	50.0	10	11.6	15.61	1	0.001	4	57.1	2	5.9	12.21	1	0.001
Presence of comorbid diagnosis[e]	7	35.0	36	42.4	0.36	1	n.s.	2	28.6	9	26.5	0.01	1	n.s.
	Mean	*SD*	*Mean*	*SD*	*t*	*df*	*p*	*Mean*	*SD*	*Mean*	*SD*	*t*	*df*	p
History of panic attacks (months)[f]	148.00	164.52	84.16	97.81	1.47	63	n.s.							
Beck Depression Inventory score[g]	26.11	10.17	18.81	10.90	2.66	100	0.01	25.86	16.53	14.53	8.92	1.76	37	n.s.
Beck Anxiety Inventory score[h]	30.60	14.00	25.45	13.62	1.33	89	n.s.	23.43	12.54	21.89	9.68	0.35	32	n.s.
Fear Questionnaire score[i]	19.42	9.67	14.27	10.66	1.93	102	0.06	25.14	7.82	20.62	8.18	1.34	39	n.s

[a]Data were missing for some patients; percents are based on number of patients with available data.
[b]Data were available for 85 patients with panic disorder and 33 patients with social phobia who did not report attempt.
[c]Data were available for 19 patients with panic disorder who did and 84 who did not report attempt.
[d]Data were available for 18 patients with panic disorder who did and 81 who did not report attempt and for 33 patients with social phobia who did not report attempt.
[e]Data were available for 85 patients with panic disorder who did not report attempt.
[f]Data were available for 16 patients with panic disorder who did and 49 who did not report attempt.
[g]Data were available for 19 patients with panic disorder who did and 83 who did not report attempt and for 32 patients with social phobia who did not report attempt.
[h]Data were available for 15 patients with panic disorder who did and 76 who did not report attempt and for 27 patients with social phobia who did not report attempt.
[i]Data were available for 19 patients with panic disorder who did and 85 who did not report attempt; the agoraphobia subscale scores are given for the patients with panic disorder; the social phobia subscale scores are given for the patients with social phobia.

Approximately one-third of the patients with panic disorder and one-third of the patients with social phobia reported that in the past year they had "felt so low, [they] thought about committing suicide." This figure for suicidal ideation is somewhat lower than the 47% lifetime prevalence obtained in the Weissman et al. study (1), but is still much higher than the rate of suicidal ideation found in the studies of Beck et al. (11) and Friedman et al. (12). However, neither of these latter studies used the ECA suicide questions; instead, they used a psychometric measure or included only ideation that was deemed to be of clinical significance. The high rate of suicidal ideation found in the present study was not associated with comorbid major depression. However, there was some evidence that suicidal ideation might be associated with more severe clinical distress.

In the group of patients with panic disorder, individuals who reported suicidal ideation had more pronounced agoraphobia, and in both groups of patients the individuals who reported suicidal ideation had significantly higher scores on a measure of depressed mood. On average, these individuals scored in the moderately to severely depressed range of the Beck Depression Inventory (21). Thus, suicidal ideation may be associated with severe demoralization, although these individuals may not necessarily meet diagnostic criteria for major depression. Also, none of the patients with comorbid major depression reported suicide attempts in the past year. The fact that thoughts of death and suicide were as common in patients with social phobia as they were in patients with panic disorder suggests that preoccupation with death is not due solely to the fears of dying common in panic disorder. Of great importance is the fact that although many individuals reported suicidal ideation, very few patients reported actual suicide attempts within the past year.

A similar pattern of results emerges with respect to the lifetime prevalence of suicide attempts. Approximately 18% of the patients with panic disorder and 12% of the patients with social phobia had made past attempts. On the surface, these figures appear to be consistent with the 20% figure obtained for individuals with panic disorder in the study of Weissman et al. (1) and discordant with the low rates found in other studies (11, 12). However, there is evidence that these past attempts may have been made in the context of depression.

In both diagnostic groups, individuals who had made suicide attempts were significantly more likely to report

TABLE 3. Characteristics of 106 Patients With Panic Disorder and 41 Patients With Social Phobia Who Did or Did Not Report Suicidal Ideation

Characteristic	Patients With Panic Disorder							Patients With Social Phobia						
	Reported Suicidal Ideation (N=33)[a]		Did Not Report Suicidal Ideation (N=73)[a]		Analysis			Reported Suicidal Ideation (N=14)[a]		Did Not Report Suicidal Ideation (N=27)[a]		Analysis		
	N	%	*N*	%	χ^2	*df*	p	*N*	%	*N*	%	χ^2	*df*	*p*
Female	25	75.8	46	63.0	1.67	1	n.s	9	64.3	10	37.0	2.75	1	0.10
Past treatment for depression[b]	18	54.5	31	43.1	1.20	1	n.s.	10	76.9	8	29.6	7.93	1	0.005
Past treatment for anxiety[c]	27	84.4	53	74.6	1.20	1	n.s.	12	85.7	21	77.8	0.37	1	n.s.
Past treatment for substance abuse[d]	2	6.7	4	5.8	0.03	1	n.s.	3	23.1	2	7.4	1.97	1	n.s.
Moderate or severe agoraphobia	23	69.7	32	43.8	6.09	1	0.02							
Previous psychiatric hospitalizations	8	24.2	12	16.4	0.90	1	n.s.	5	35.7	1	3.7	7.56	1	0.01
Presence of comorbid diagnosis[e]	13	39.4	30	41.7	0.05	1	n.s.	7	50.0	4	14.8	5.81	1	0.03
	Mean	*SD*	*Mean*	*SD*	*t*	*df*	*p*	*Mean*	*SD*	*Mean*	*SD*	*t*	*df*	p
History of panic attacks (months)[f]	84.00	71.76	106.43	134.57	0.87	63	n.s.							
Beck Depression Inventory score[g]	26.59	11.10	17.23	9.84	4.28	100	0.001	24.77	14.46	12.46	6.40	2.93	37	0.01
Beck Anxiety Inventory score[h]	31.93	14.62	23.52	12.50	2.85	89	0.005	23.00	10.15	21.71	10.35	0.35	32	n.s.
Fear Questionnaire score[i]	19.09	9.15	13.49	10.85	2.55	102	0.02	21.57	8.27	21.30	8.33	0.10	39	n.s.

[a]Data were missing for some patients; percents are based on number of patients with available data.
[b]Data were available for 72 patients with panic disorder who did not report ideation and 13 patients with social phobia who reported ideation.
[c]Data were available for 32 patients with panic disorder who reported ideation and 71 who did not report ideation.
[d]Data were available for 30 patients with panic disorder who did and 69 patients who did not report ideation and for 13 patients with social phobia who reported ideation.
[e]Data were available for 72 patients with panic disorder who did not report ideation.
[f]Data were available for 19 patients with panic disorder who did and 46 who did not report ideation.
[g]Data were available for 32 patients with panic disorder who did and 70 who did not report ideation and for 13 patients with social phobia who did and 26 who did not report ideation.
[h]Data were available for 30 patients with panic disorder who did and 61 who did not report ideation and for 13 patients with social phobia who did and 21 who did not report ideation.
[i]Data were available for 32 patients with panic disorder who did and 72 who did not report ideation; the agoraphobia subscale scores are given for the patients with panic disorder; the social phobia subscale scores are given for the patients with social phobia.

past treatment for depression than were individuals who had never made an attempt, but there were no differences between those who had and had not attempted suicide with respect to past treatment for anxiety (there was a high rate in both groups). There was insufficient information in several descriptions of the suicide attempts to rate their potential lethality reliably, but the conclusion that many, if not most, of the attempts were serious is supported by the fact that individuals who made attempts were significantly more likely to report previous psychiatric hospitalizations than were individuals who reported no suicide attempts. These results support the findings of Rudd et al. (14) that uncomplicated panic disorder is rarely associated with suicide but that panic disorder with comorbid depression substantially increases suicide risk.

Prevalence figures on suicidal ideation and suicide attempts seem to be higher in studies that relied on patient reports and lower in studies that relied on clinicians' notes. Noyes (4) suggested that patient reports might yield more information and that clinicians may underreport suicidality in anxiety disorders because it is not routinely investigated. There may be a similar discrepancy in regard to a DSM-III-R diagnosis of major depression in other studies versus the patients' reports of past treatment for "depression," which were often associated with suicidality in this study. In the latter case, patients were distressed enough to seek professional treatment, but they may have received a diagnosis of adjustment disorder with depressed mood rather than a diagnosis of major depression. Thus, studies requiring that individuals given the diagnosis of uncomplicated panic not have any past diagnosis of major depression would not be able to identify those individuals who had made suicide attempts in the context of depressed mood that did not meet diagnostic criteria for major depression (e.g., an adjustment disorder). Similarly, Lepine et al. (10) found that several patients with "uncomplicated" panic disorder who had attempted suicide had also met all diagnostic criteria for major depression except the 2-week duration criterion.

Substantial rates of suicidal ideation and suicide attempts were not limited to patients with panic disorder in this study: 34% of the patients with social phobia reported suicidal ideation over the past year and 12% reported past suicide attempts. These figures are as high as or higher than those reported by Schneier et al. (3) for a community sample, and the negative influence of comorbidity in our study also paralleled their findings.

The greatest limitation of this study is its reliance on patient self-report. A clinical interview approach may be needed to determine what exactly patients mean

when they report that they "thought" about committing suicide. It may be that the suicidal ideation reported by these patients is very transient and that most individuals rule out this option very quickly or easily. Another limitation is that few of the patients also had current major depression, and it is not clear what effect this comorbidity would have. Finally, some of the subjects may have had a past history of major depression that was not reported because they did not seek treatment for it.

In conclusion, we have found that many patients with panic disorder and many patients with social phobia report having suicidal ideation but that very few had actually made any recent attempts. Our results suggest that past suicide attempts were often in the context of depressive symptoms rather than just panic or anxiety alone.

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