

## Current Rates and Symptom Profiles of Panic Disorder in Six Cross-National Studies

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**Summary:** One-month and 6-month prevalence and symptom profiles of panic disorder from six cross-national epidemiologic studies are reported. These studies were conducted at five sites in the United States, Puerto Rico, Germany, Lebanon, Korea, and New Zealand. Results show that the 1- and 6-month rates were consistent in the five sites in the United States and in other countries. There was a predominance of females in the rates of panic disorder in most countries. Palpitations and trembling were prevalent in 60% or more persons with panic disorder at all sites. The results show that panic disorder is present with similar phenomenology in diverse cultures that have been studied. **Key Words:** Cross-national psychiatry—Epidemiology—Panic disorder.

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This is a preliminary report on the cross-national epidemiology of panic disorder. Panic disorder first appeared as a diagnosis in the third edition of the American Psychiatric Association *Diagnostic and Statistical Manual* (DSM), published in 1980 (1), and now appears in the recently published *International Classification of Disease*, 10th edition (ICD-10) (2). Panic disorder, according to DSM-III, requires at

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**TABLE 1.** *Specific characteristics of cross-national sites*

Site	Characteristic
U.S. ECA	Five United States sites
Puerto Rico	Island of Puerto Rico
West Germany	Munich, Germany Follow-up Study
Beirut	City of Beirut and its suburbs, Lebanon
Korea	Metropolitan Seoul and rural regions
New Zealand	City of Christchurch in South Island of New Zealand

least three panic attacks in a 3-week period, not solely precipitated by exposure to a specific fearful situation, with any 4 of the following 12 symptoms during an attack: dyspnea, palpitations, chest pain or discomfort, choking or smothering sensations, dizziness, feelings of unreality, paresthesia, hot and cold flashes, sweating, faintness, trembling or shaking, and fear of dying or going crazy. The epidemiology of panic disorder has been well studied in the U.S. NIMH Epidemiologic Catchment Area (ECA) study (3), a large population survey of psychiatric disorders in five U.S. communities. Panic disorder has a lifetime prevalence of 1.5% in the household sample, is predominant in women compared to men, has high comorbidity with other psychiatric and medical disorders, and carries with it an increase in social morbidity, poor quality of life, and an increased risk for suicide attempts (4-10).

Recently, we formed a cross-national collaboration with investigators who were studying the epidemiology of psychiatric disorders using the same diagnostic and sampling methodologies as the United States ECA during the 1980s. We report here on the 1- and 6-month prevalence and symptom profiles from the United States (3), Puerto Rico (11), Germany (12), Lebanon (13), Korea (14,15), and New Zealand (16,17). Rates and proportions have been standardized to the U.S. household population so that more precise estimates and comparisons can be made.

**TABLE 2.** *One-month rate/100, overall and for males and females in cross-national sites, aged 18-64<sup>a</sup>*

	Number of subjects	Overall	Females	Males	F/M ratio
United States					
New Haven, CT	2,458	0.4	0.6	0.2	3.0
Baltimore, MD	2,558	0.8	1.1	0.4	2.7
St. Louis, MO	2,426	0.7	0.8	0.5	1.6
Durham County, NC	2,680	0.6	0.9	0.3	3.0
Los Angeles, CA	2,745	0.6	0.8	0.4	2.0
Puerto Rico	1,513	1.0	0.8	1.2	0.7
West Germany	481	1.2	1.6	0.8	2.0
Beirut	223	1.4	1.8	1.1	1.6
Korea	5,075	1.2	2.1	0.3	7.0
New Zealand	1,498	0.4	0.8	0.0	—

<sup>a</sup> All values are standardized to the age and sex distribution of the U.S. ECA.

**TABLE 3.** Six-month rate/100, overall and for males and females in cross-national sites, aged 18-64<sup>a</sup>

	Number of subjects	Overall	Females	Males	F/M ratio
United States					
New Haven, CT	2,458	0.7	1.1	0.3	3.6
Baltimore, MD	2,558	1.2	1.4	0.9	1.5
St. Louis, MO	2,426	1.0	1.2	0.8	1.5
Durham County, NC	2,680	0.8	1.0	0.6	1.7
Los Angeles, CA	2,745	0.8	1.2	0.4	3.0
Puerto Rico	1,513	1.1	0.9	1.2	0.7
West Germany	481	1.5	2.0	0.8	2.5
Beirut	223	2.1	3.1	1.1	2.8
Korea	5,075	1.4	2.2	0.4	5.5
New Zealand	1,498	1.1	1.7	0.4	4.2

<sup>a</sup> All values are standardized to the age and sex distribution of the U.S. ECA.

## METHOD

### Description of Cross-National Sites

Each epidemiologic survey used the Diagnostic Interview Schedule, Version III (18.19) and the DSM-III (1). Each investigator provided data from their studies to be pooled at Columbia University and the New York State Psychiatric Institute. The sites span diverse geographical, political, and cultural areas in North America, the Caribbean, Europe, the Middle East, the Orient, and the Pacific Rim. Table 1 summarizes the specific characteristics of each cross-national site.

### Statistical Analysis

Statistical analyses of these data standardize the rates of panic disorder at each site to the age and sex distribution of the ECA five-site household sample. The ECA was designated as the reference sample because it has the largest sample size and a sampling scheme robust enough to ensure stability of findings. Because the age samplings of the sites differ, analyses are reported only for the 18- to 64-year-old group, with values for Munich based on ages 26 to 64. The standardization was done according to methods described by Breslow and Day (20). Prevalence rates weighted in this manner give estimates as though each site has the same age and sex distribution of the ECA. Symptom profiles weighted in this manner also reveal estimates as though each site has the same age and sex distribution of the ECA, but take the weighted proportion of persons affected by panic disorder at each site into account.

## RESULTS

### Prevalence and Gender Differences

The 1-month rate of panic disorder ranges from 0.4/100 in the New Haven site of the ECA and in New Zealand to 1.4/100 in Beirut (Table 2). The rates are consistent across sites and in the five ECA sites. The rates are consistently higher in women compared to men, except for Puerto Rico. The female-to-male ratio in the five sites of

	USA	Puerto Rico	West Germany	Korea	New Zealand
Dyspnea					
Palpitations					
Chest pain					
Smothering					
Dizziness					
Unreality					
Paresthesia					
Hot / cold flashes					
Sweating					
Faintness					
Trembling					
Fear of dying					

FIG. 1. Symptoms occurring in 60% or more of persons with panic disorder are represented by black boxes by site.

the United States ranges from 1.6:1 at St. Louis to 3.0:1 at New Haven and Durham County. Similar patterns, with slightly higher rates as expected, are seen for the 6-month prevalence (Table 3).

### Symptom Profiles

Symptom profiles in persons with lifetime panic disorder are shown for the cross-national sites in Fig. 1. Symptoms occurring in 60% or more persons with panic disorder are represented by blackened boxes by site.

Palpitations and trembling were present in 60% or more of persons with panic disorder at each site. Chest pain, hot and cold flashes, sweating, and fear of dying were also present in 60% or more of persons with panic disorder at most sites. Feelings of unreality were present in 60% or more of persons with panic disorder only in Puerto Rico. Paresthesia was present in less than 60% of persons with panic disorder in each cross-national site.

### DISCUSSION

These results show that panic disorder, as assessed with the Diagnostic Interview Schedule, was present during the past month or past 6 months in the household

community in diverse cultures studied around the world. Most of the symptoms of panic disorder were present in 60% or more of persons with panic disorder at most of the sites, suggesting that the phenomenology is similar across sites.

It now remains to investigate further the distribution and determinants of panic disorder. We are undertaking analysis of other risk factors, the association between panic disorder and other psychiatric disorders, and the association with suicide attempts, and will be including data available from other countries. These complete results will be reported in a forthcoming publication.

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