Factors Affecting The Threshold For Seeking Care: The Panic Attack Care-Seeking Threshold (PACT) Study

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Background: **This study was conducted to explore the phenomenon of seeking medical care for panic attacks and to identify factors associated with seeking care.**

Methods: **A community sample of adults was screened using the Structured Clinical Interview of the *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition. Subjects who had experienced panic attacks participated in a structured interview concerning their health care access and utilization, panic characteristics, comorbidity, illness attitudes and perceptions, and family characteristics.**

Results: **Forty-one percent of the subjects had not sought medical care for their panic attacks. Having to get someone to drive (RR [relative risk] = 1.8; $P = 0.0026$), inability to work because of panic (RR = 1.6; $P = 0.0054$), and a high treatment experience score on the Illness Attitude Scales (RR = 1.5; $P = 0.034$) independently predicted seeking care. Seeking support was also significantly associated with seeking care ($t = -4.05$; $P = 0.0001$). Care seekers tended to have more severe symptoms, stronger symptom perceptions, and more bodily preoccupation and to abuse drugs more frequently. Seeking care was not influenced by sex, race or ethnicity, stress, psychiatric comorbidity, family function, social support, or access to health care.**

Conclusions: **Nearly one-half of persons with panic attacks do not seek care for their attacks. Those who seek care differ from those who do not in ways that have important implications for the understanding of this illness. (J Am Board Fam Pract 1993; 6:215-223.)**

Our understanding of most diseases is based on research done in medical settings on subjects who have already made the decision to become patients of the health care system. Many persons who have illnesses, however, do not interface with the health care system. Indeed, the majority of illnesses and injuries are not brought to the attention of a physician.[1] Thus, within the medical community, an understanding of the epidemiology, natural history, and response to treatment of most diseases is based on knowledge of only one segment of the population suffering from the illness — those who have sought medical care.

How do individuals who come to medical attention with their illnesses differ from those who do not? Do these persons simply have greater severity of symptoms, as many physicians assume?[2] Is a person's likelihood of or threshold for seeking care influenced in systematic ways that make him or her unrepresentative of the rest of the population with the disease? Differences between persons who become subjects of study by virtue of their appearance in health care settings and those who remain in the community could introduce important bias into research.[3]

Medical sociologists have pointed out the importance of understanding illness behavior in addition to understanding the illness itself.[2,3] Several models for the process of deciding to seek medical care have been proposed,[2,4,5] and researchers have used many instruments and techniques to examine various aspects of these models.[6-12] These studies, however, generally examine overall health care utilization rather than care seeking for one particular illness or symp-

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tom. The variability of the illness is thus uncontrolled in most studies, and it is the illness itself that most physicians consider to be the primary determinant of seeking care. Only a few studies have focused on actual care seeking for a single illness or symptom among persons in the community. Most of these studies have focused on depression,[13-16] although one researcher has examined panic.[17]

Panic attacks represent a condition that is ideal for studying the threshold for seeking care. Panic attacks are dramatic and distressing, have well-accepted diagnostic criteria,[18] and are common, occurring in up to 11 percent of adults.[19] Even when too infrequent to be classified as panic disorder, panic attacks can have serious complications, including depression,[20] suicide,[21] substance abuse,[22] and agoraphobia.[20] Nevertheless, nearly one-half of panic sufferers do not seek help from the health care system for their attacks.[17]

Our study was conducted to explore the phenomenon of seeking medical care for panic attacks and to describe differences between persons who seek care for their attacks and those who do not come to medical attention. We found adults in our community who had experienced panic attacks and examined their personal, family, and illness characteristics, looking for factors associated with seeking care for their attacks. We hypothesized that care seeking would be influenced by a number of factors, including severity of symptoms, access to care, race and ethnicity, levels of stress, coping styles, symptom perceptions, and family functioning.

Methods

The Panic Attack Care-Seeking Threshold (PACT) Study was conducted in San Antonio, TX, from August 1989 to April 1990, using methods similar to those of the Epidemiologic Catchment Area Study.[23] Varying numbers of subjects from 18 census tracts were selected so that the study population would be representative of the US population in terms of age, sex, and race (African-American or white). Because of the large Hispanic population in San Antonio, we did not attempt to achieve US representativeness with regard to ethnicity. This approach resulted in relative oversampling of census tracts with higher percentages of African-American residents. After randomly selecting a starting point within each tract, clusters of three dwellings were selected at intervals of eight. Individuals within the dwelling were randomly selected using the Kish method.[24] If the individual to be screened was not present, two follow-up visits were attempted.

The initial screening consisted of a structured interview using the panic disorder portion of the Structured Clinical Interview of the *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition, (SCID),[25] as well as a demographic information sheet, administered by one of two trained lay research assistants. Those persons meeting the *Diagnostic and Statistical Manual of Mental Disorders*, 3rd edition, revised (DSM-III-R) criteria for panic attacks[18] were asked to participate in a long interview concerning their access to health care, health care utilization, personality characteristics, panic characteristics, quality of life, coexisting psychiatric problems, and family characteristics.

Subjects were classified as having panic attacks if they had ever experienced unexpected and unexplained discrete periods of intense fear or discomfort consisting of at least four panic symptoms.[18] Subjects with panic attacks thus included those with attacks frequent enough to meet DSM-III-R criteria for panic disorder (i.e., four attacks in 4 weeks or at least one attack with persistent fear), as well as persons with less frequent attacks.

Interviews were conducted in either English or Spanish at the subject's request. Spanish translations appropriate to the population were prepared by the research team. Table 1 lists the instruments used in the long interview. A panic severity score for symptoms experienced during the self-described worst attack was calculated based on the sum of the severities of individual symptoms from the Acute Panic Inventory (modified from Carr, et al).[26] Five of eight Symptom Perception Scales[28] were used, inquiring about 12 panic-related symptoms and 12 symptoms unrelated to panic. In addition, a summary score for all 12 panic symptoms was calculated for each Symptom Perception Scale used. The Health Care Access and Utilization Questionnaire was developed for this study. This instrument was designed to detect obstacles to obtaining medical care and to quantify overall health care utilization, as well as care for panic attacks. This instrument also included several open-ended questions in-

Table 1. Instruments Used in the Long Interview.

Structured Clinical Interview of the DSM-III[25]*
Major depressive episode section
Substance abuse section
Obsessive-compulsive disorder section
Simple phobia section
Social phobia section
Generalized anxiety disorder section
Acute Panic Inventory (modified from Carr, et al.)[26]
Symptom Checklist-90 (SCL-90)[27]
Quality of Life Questionnaire
Health Care Access and Utilization Questionnaire
Symptom Perception Scales (modified from Jones, et al.)[28]
Illness Behavior Questionnaire (IBQ)[29]
Illness Attitude Scales (IAS)[30]
Readiness for Sick Role Index[31]
Health Locus of Control[32]
Ways of Coping Checklist[33]
Appraisal Dimensions Scale[34]
Cuellar Acculturation Scale[35]
Family measures
Family Inventory of Life Events (FILE)[36]
Family Adaptability and Cohesion Evaluation Scales (FACES-III)[37]
Duke Social Support and Stress Scale (DUSOCS)[38]

*_Diagnostic and Statistical Manual of Mental Disorders_, 3rd edition.

tended to explore the decision to seek or not to seek medical care.

Subjects were considered to have sought medical care for panic if they reported ever seeking help specifically for their panic symptoms from any of the following: emergency department, minor emergency center, clinic, physician's office (including that of a psychiatrist), ambulance service, psychologist, social worker, or mental health clinic.

Univariate analysis was conducted using chi-square, the Student t-test, or Fisher exact test. Because of the large number of variables, some variables in the univariate analysis were expected to be significant on the basis of chance alone. We therefore applied Bonferroni correction[39] to obtain an alpha level corrected for multiple comparisons. In addition, we used variables significant at the $P \leq 0.05$ level on univariate analysis and applied stepwise logistic regression to predict seeking care for panic attacks. Power analysis using an alpha level of 0.05 and a medium effect size for 97 subjects was 80 percent when using logistic regression analysis with a maximum of six independent variables.[40]

Results

Of the 1683 individuals contacted, 1266 (75.2 percent) agreed to be screened. Of these, 119 (9.4 percent) met DSM-III-R criteria for panic attacks, with 97 (80.5 percent) agreeing to participate in the long interview. The most common reason given for refusal was a lack of interest (n = 14). Four were reluctant to be involved, whereas failure to keep the appointment and moving were reasons in two cases each.

Demographic data on the 97 subjects completing the interview are presented in Table 2. The sample was predominantly female, and Hispanics were heavily represented.

Forty-two (43 percent) of the subjects had sufficiently frequent and persistent panic attacks to be given the diagnosis of panic disorder. The other 55 subjects had panic attacks, but their symptoms did not meet the DSM-III-R criteria for the diagnosis of panic disorder. Eleven subjects (11 percent) had mild or moderate phobic avoidance, and 25 (26 percent) had severe phobic avoidance. Concomitant anxiety and depressive disorders were common.

Overall, 40 subjects (41 percent) had never sought medical care for their panic attacks. Of those ever seeking care, 42 (74 percent) sought care for their self-described worst attack, 36 (64 percent) sought care when attacks increased in frequency, and 31 (54 percent) sought care for their first attack. Other attacks were less commonly associated with seeking care.

Open-ended questions were used to allow those who had sought care to indicate their

Table 2. Characteristics of the Subjects Completing the Long Interview (n = 97).

Variable	No. (%)
Sex (female)	76 (78)
Ethnicity or race	
Hispanic	54 (56)
Non-Hispanic white	29 (30)
African-American	14 (14)
Marital status (married)	43 (44)
Education (completed high school or more)	62 (64)
Occupation	
Professional or managerial	7 (7)
Housewife or student	34 (35)
Retired or unemployed	12 (12)
Age in years (mean ± SD)	39.8 ± 14.5

Table 3. Reasons for Seeking Medical Care for Panic Attacks (n = 57).*

Reason	Number
Cognitions (n = 25)	
Dying	4
Emergency	4
Did not know what was wrong	4
Heart attack	3
Going crazy	3
Was ill or sick	3
Stroke	2
Not normal	2
Somatic symptoms (n = 14)	
Palpitations	3
Severity and number of symptoms	3
Chest pain	2
Dyspnea	2
Weight loss	1
Syncope	1
Paralysis	1
Psychological symptoms (n = 12)	
Fear	3
Worry	3
Could not cope	2
Could not sleep	2
Could not eat	1
Stress	1
Attack pattern (n = 4)	
Persisting, symptoms not resolving	3
Frequency	1
Solution seeking (n = 4)	
Wanted to get well	2
Needed help	1
Needed medication	1
Family decided	7
Physician observed or decided	4
Missing	3

*14 subjects gave more than one reason.

reasons for seeking medical help (Table 3). Specific cognitions or interpretations of symptoms were most often cited. Somatic symptoms and psychological symptoms — several of which reflected disruptions of usual functioning — were often mentioned. Seven subjects cited the influence of family members. A variety of reasons were also cited for not seeking care (Table 4). Reasons related to the interpretation of symptoms were given most frequently. Financial considerations and use of alternative remedies were also commonly cited, as were embarrassment and the mild or temporary nature of the symptoms.

Tables 5 and 6 present variables that were associated with ever seeking care for panic attacks in the univariate analyses. While many variables were associated with seeking medical care at the $P \leq 0.05$ level, only three remained significant after Bonferroni correction. No relation was found between ever seeking care and demographic factors, subject or family health care utilization, Health Locus of Control, the Readiness for Sick Role Index, the Appraisal Dimensions Scale, or any of the family measures. Several panic characteristics were associated with seeking care at the $P \leq 0.05$ level, including the presence of panic disorder by DSM-III-R criteria, greater severity of symptoms during the worst attack, and longer time since panic was first experienced. Drug abuse variables were the only psychiatric comorbidity associated with seeking care; phobic avoidance and depression did not predict seeking care. Several employment-related variables in the Quality of Life Questionnaire were associated with seeking care, but only incapability of working remained significant after Bonferroni correction. Three variables from the Health Care Access and Utilization Questionnaire were significant at the $P \leq 0.05$; only having

Table 4. Reasons for Not Seeking Care for Panic Attacks (n = 40).*

Reason	Number
Interpretation (n = 13)	
Not serious or nothing wrong	5
Attributed to some cause (e.g., medications, stress, menopause)	6
Aware of problem or care not necessary	2
Financial considerations	7
Other remedies would help (n = 7)	
Relaxation techniques	3
Others	4
Limited symptoms (n = 6)	
Symptoms would pass	4
Symptoms not severe	2
Embarrassment or shame (n = 4)	
Doctor would think crazy	2
Stigma to see therapist	1
Parents ashamed to take her	1
Did not know what it was	3
Physician could not help	2
Miscellaneous (n = 6)	
Did not know where to go	1
Never thought of it	1
Had been referred to psychiatrist	1
Worried more about husband's health	1
Did not want to talk about son's death	1
Did not care what would happen	1

*Six subjects gave more than one reason.

Table 5. Results of Univariate Analyses of Variables Associated with Seeking Care for Panic Attacks (Dichotomous Variables Significant at the $P \leq 0.05$ Level).

Variable	Percent Who Sought Care (n = 57)	Percent Who Did Not Seek Care (n = 40)	Statistic	*P* Value
Panic characteristics				
Met criteria for panic disorder	53	30	$\chi^2 = 4.90$	0.027
Palpitations during worst attack	88	100	Fisher	0.039
Psychiatric comorbidity				
Opiate abuse or dependence	11	0	Fisher	0.0406
Stimulant abuse or dependence	16	3	Fisher	0.0431
Barbiturate abuse or dependence	12	0	Fisher	0.0391
Quality of life				
Incapable of work	58	20	$\chi^2 = 13.83$	0.000199*
Decline in work quality	56	35	$\chi^2 = 4.21$	0.040
Altered job choice	43	18	$\chi^2 = 7.88$	0.020
Time off work	40	18	$\chi^2 = 6.82$	0.033
Health care access				
Drive self	7	23	$\chi^2 = 4.86$	0.028
Get someone to drive	44	8	$\chi^2 = 15.13$	0.000100*
Need special bus	11	0	Fisher	0.0406

*Significant after Bonferroni correction: $P < 0.00023$. Desired alpha level (0.05) ÷ number of variables (221).

to get someone to drive remained significant after Bonferroni correction. Insurance coverage and having a personal physician were not associated with seeking care. Fourteen of the 75 variables of the Symptom Perception Scales, two of the Illness Behavior Questionnaire scales, and four scales from the Illness Attitude Scales were significant at the $P \leq 0.05$ level. None of these associations remained significant, however, after correction for multiple comparisons. Seeking support on the Ways of Coping Checklist was significant after Bonferroni correction.

Table 7 presents the results of logistic regression using the 37 variables significant at the $P \leq 0.05$ level on univariate analysis to predict ever seeking help from the health care system for panic. Having to get someone to drive (from the Health Care Access and Utilization Questionnaire) and inability to work because of panic symptoms (from the Quality of Life Questionnaire) independently predicted ever seeking care. In addition, a high treatment experience score on the Illness Attitude Scales predicted seeking care. This score is based on three questions regarding the frequency of seeing a physician, the number of different providers seen, and the frequency of treatment in the last year. Thus, few variables appear to be independently related to seeking care in the multivariate analysis.

While several variables that reflect panic severity (presence of panic disorder, panic duration, and severity of the worst attack) were significant at the $P \leq 0.05$ level, none emerged from the multivariate analysis as independent predictors in seeking care. Because the severity notion is so attractive to us as physicians, and because other work suggests that severity of symptoms is important,[15] we repeated the logistic regression forcing worst attack severity into the model and preventing its removal. The results were similar to the original analysis: having to get someone to drive and treatment experience remained independent predictors of seeking care. Inability to work because of panic, however, no longer predicted seeking care.

Discussion

The present study confirms that a substantial proportion of adults suffering from panic attacks do not come to medical attention: 41 percent of our subjects had not sought medical care for their attacks. This figure is similar to the 44 percent observed previously,[17] although other studies have found higher[41] and lower[42] rates of panic unreported to the medical system.

Our results show that research limited to subjects who seek medical care for panic will not accurately describe those who do not present for care. Such research will overestimate the amount of treatment experience of panic sufferers and the impact of panic on the ability to work. Persons without someone available to drive them will be underrepresented, and those who tend to cope by seeking support will be overrepresented.

Those who sought care differed from those who did not in many other important ways as well. While the differences noted in univariate analyses

Table 6. Results of Univariate Analyses of Variables Associated with Seeking Care for Panic Attacks (Continuous Variables Significant at the $P \leq 0.05$ Level).

Variable	Mean Value among Those Who Sought Care	Mean Value among Those Who Did Not Seek Care	*t*	*P* Value
Panic characteristics				
Panic severity (worst attack)	56.9	48.7	−2.23	0.0279
Panic duration (years)	13	8	−2.36	0.0204
Severity of unreality	4.9	3.3	−2.66	0.0091
Symptom perceptions (inverse scoring)				
Dizziness is embarrassing	3.8	5.2	2.71	0.0080
Palpitations are embarrassing	4.5	5.5	2.20	0.0304
Shaking is embarrassing	3.3	4.7	2.70	0.0083
Fear needs treatment	1.8	3.0	2.69	0.0089
Faintness needs treatment	2.0	2.9	2.15	0.0337
Shaking needs treatment	2.6	3.8	2.74	0.0073
Panic symptoms need treatment	2.4	3.0	2.47	0.0153
Fear is a severe symptom	2.2	3.7	3.12	0.0024
Numbness is a severe symptom	2.4	3.8	2.99	0.0036
Faintness is a severe symptom	2.4	3.5	2.38	0.0191
Unreality is a severe symptom	3.5	4.7	2.05	0.0436
Panic symptoms are severe	2.7	3.5	2.58	0.0113
Fear interferes with function	2.1	3.1	2.16	0.0334
Shaking interferes with function	2.7	3.9	2.53	0.0129
Illness Behavior Questionnaire				
Disease conviction	3.9	2.8	−3.11	0.0025
Whiteley hypochondriasis index	8.1	6.1	−2.72	0.0077
Illness Attitude Scales				
Worry	7.7	6.2	−2.36	0.0203
Concern with pain	6.6	5.1	−2.21	0.0295
Bodily preoccupation	5.0	3.6	2.27	0.0255
Treatment experience	6.0	3.7	−3.74	0.0003
Ways of Coping Checklist				
Problem-focused	2.1	1.9	−2.19	0.0310
Seeks support	2.1	1.6	−4.05	0.0001*

*Significant after Bonferroni correction: $P < 0.00023$. Desired alpha level (0.05) ÷ number of variables (221).

(Tables 5 and 6) could have been due to chance, certain trends are apparent. People who sought care had evidence of more severe symptoms: they were more likely to meet criteria for panic disorder, to have symptoms of longer duration, to report a higher severity index for their worst attack, and to have stronger feelings of unreality. In addition to experiencing a greater impact on employment, those who sought care were more likely to have abused several types of drugs.

Those who sought care also differed from those who did not in perceptions and attitudes. Care seekers consistently believed more strongly that panic symptoms were embarrassing and severe, needed treatment, and interfered with function. They had more hypochondriasis, disease conviction, worry, concern with pain, and bodily preoccupation than those who did not seek care. Care seekers were more likely to seek support and to be problem-focused in coping. Thus, research based only on patients of the health care system is unlikely to reflect accurately the perceptions, interpretations, and attitudes of the larger population of panic sufferers.

The variables that emerged from the logistic regression as independent predictors of seeking care were, to some extent, unexpected. The question about having to get someone to drive was the variable most strongly associated with seeking care — but in the direction opposite from what we anticipated. This question was intended to detect an obstacle to obtaining care but instead could reflect fear of driving oneself or the availability of someone else to drive. On the other hand, the importance of inability to work is consistent with the theory that interference with function is a primary determinant of a person's assessment of symptoms and thus influences the decision to seek care.[2,4]

The treatment experience score of the Illness Attitude Scales is based on three questions regarding the frequency of treatment and variety of providers. The association of this variable with seeking care for panic could be related to its measurement of seeking care for all causes; however, no other health care utilization variables predicted seeking care in our study. A high treatment experience score might reflect repeatedly seeking care for panic, a phenomenon that has been noted in some studies.[43] We did not find that seeking care was influenced by sex, in contrast to health care utilization studies suggesting that women are more likely to seek care than men.[2,31] We also expected that seeking care would be influenced by race or ethnicity,[15,17,44] stress,[45] psychiatric comorbidity,[46] family function, social support, and access to health care. None of these factors, however, was associated with seeking care.

Interestingly, the variables reflecting severity of symptoms did not independently predict seeking care in the multivariate analysis. In the univariate analysis, several severity variables were associated with seeking care at the $P \leq 0.05$ level, but none remained statistically significant after Bonferroni correction. This finding is in conflict with the traditional clinical perspective, which holds that the primary determinant of seeking care is the severity of the illness.[2] For panic attacks, at least, other factors appear to be more influential than symptom severity.

The only other study of correlates of care seeking for panic was based on responses to a mailed questionnaire.[17] That study found that white race, feeling free to discuss panic with one's physician, and the presence of two symptoms — trembling and hot or cold flashes — independently predicted seeking care from the health care system. The different findings noted in the present study could be due to methodologic differences or to geographic differences in the populations studied.

The present study examined care seeking from a different perspective than did the larger National Institute of Mental Health Epidemiologic Catchment Area (ECA) Study. Reports of the ECA Study data have not extensively examined the correlates of care seeking among panic sufferers.[47,48] Moreover, the ECA Study did not determine whether subjects had sought care specifically for their panic symptoms; subjects were asked whether (and where) they had sought help for emotional problems.[47,48] Depression is the other condition for which the correlates of seeking care for a specific illness have been studied. Analyses of ECA Study data suggest that illness severity, race, disturbed relationships with friends and relatives (among African-Americans), concomitant psychiatric symptoms, and type and number of depressive symptoms influence care-seeking behavior.[13,15,46] A study of depression among women who had given birth found that care seeking was influenced by previously having sought help for emotional problems, longer duration of symptoms, more severe sleep disorder and energy loss, and recommendations by others to seek professional help.[49] Thus, for depression, illness severity and race appear to be related to seeking care. Of course, the factors important in whether someone seeks care are likely to vary across disorders.

Table 7. Relative Risk of Presenting to the Health Care System: Variables Significant in the Logistic Regression (n = 97).

Variables	Relative Risk (*P*)
Having to get someone to drive	1.8 (0.0026)
Inability to work	1.6 (0.0054)
Treatment experience (Illness Attitude Scales)	1.5 (0.0344)

The present study has several limitations. Because of its cross-sectional design, this study can describe associations but cannot establish cause-and-effect relationships. Indeed, this study is exploratory in that it examines many variables among the subjects interviewed. Associations noted in such a broad study should be examined more closely in narrower, more focused studies.

If the individuals interviewed were systematically different from individuals who refused to participate or who were absent during our attempts to screen, our sample would not have been truly representative of persons with panic in the community. It is reassuring that we found no significant differences between interview participants and nonparticipants with regard to demographic variables, phobic avoidance, or duration of panic symptoms. Participants could have differed from nonparticipants in ways we were unable to measure, however. Of course, factors affecting use of the health care system in San Antonio

— with its unique ethnic and social composition — might not apply to populations in other localities.

The reliance on patient recall is a limitation in that many of the panic attacks in question had occurred years before the interview. Also, because some testing instruments were modified for use in this study, the reliability and validity data of the original instruments might not apply to the current study. Another issue is the potential effect of administering multiple instruments, as well as the order of administration, on the validity of the results. Finally, there could be other variables not included in this study that are associated with seeking medical care for panic attacks.

Conclusions

Nearly one-half of the persons with panic attacks do not seek medical care for their attacks. Those who seek care differ from those who do not in ways that could have important implications for the understanding of this illness. This study shows that factors other than the severity of the illness are important determinants of a person's threshold for seeking care.

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