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Recent epidemiologic studies have found that most patients with mental illness are seen exclusively in primary care medicine. These patients often present with medically unexplained somatic symptoms and utilize at least twice as many health care visits as controls. There has been an exponential growth in studies in this interface between primary care and psychiatry in the last 10 years. This special section, edited by **Wayne J. Katon**, M.D., will publish informative research articles that address primary care-psychiatric issues.

Predictors of willingness to consider medication and psychosocial treatment for panic disorder in primary care patients

Holly Hazlett-Stevens, Ph.D.^{a,*}, Michelle G. Craske, Ph.D.^a, Peter P. Roy-Byrne, M.D.^b,
Cathy D. Sherbourne, Ph.D.^c, Murray B. Stein, M.D.^d, Alexander Bystritsky, M.D.^a

^aUniversity of California, Los Angeles, CA, USA

^bUniversity of Washington, Seattle, WA, USA

^cRAND Corporation, Los Angeles, CA, USA

^dUniversity of California, San Diego, CA, USA

Abstract

The purpose of this investigation was to identify demographic and clinical patient characteristics related to willingness to consider panic disorder treatments in the primary care setting. Given the prevalence of anxiety disorders and the increased provision of mental health treatments in general medical settings, patients were selected from primary care settings. An unselected sample of 4,198 patients completed a brief questionnaire containing questions about demographic characteristics, physical health status, and symptoms of panic disorder, social phobia and PTSD. The 1,043 patients indicating a recent panic attack episode answered additional questions about their willingness to consider both medication and psychosocial forms of intervention for panic. Of these panic patients, 64% reported willingness to consider medication and 67% reported willingness to consider a psychosocial intervention for their panic. Logistic regression analyses for these panic patients revealed that willingness to consider medication treatment for panic was associated with older age, lower education, poorer health status and the presence of social phobia and/or PTSD symptoms. In addition, Asian and African American patients were less likely than Caucasian patients to indicate willingness to consider medication treatment for their panic. However, only the presence of comorbid social phobia and PTSD symptoms predicted willingness to consider a psychosocial intervention. Results suggest that acceptability of psychosocial treatment is unrelated to demographic and physical health factors, while primary care patients with certain demographic characteristics, good physical health, or who suffer from fewer comorbid mental health conditions may need additional encouragement to begin medication treatment for panic. © 2002 Elsevier Science Inc. All rights reserved.

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1. Introduction

Psychiatric disorders are receiving increased attention within primary care settings. However, more study is needed to learn how to improve the provision and acceptance of appropriate mental health treatments. Thus, identification of patient characteristics that predict willingness to consider such treatments could ensure that available treatment is offered to all who might benefit and that education

and encouragement is provided to patients with initial reluctance. Only 24.7% of National Comorbidity Survey respondents meeting DSM-III-R criteria for a psychiatric disorder over the previous year utilized any form of medical, mental health or other human services [1]. Of those patients with panic disorder, only 46.4% used any of these services. Patient preferences may affect the utilization of services, as patients who do not receive their preferred type of treatment often fail to begin treatment [2] or fail to complete treatment [3]. The current study addresses these issues by assessing the acceptability of medication and of psychosocial intervention for panic among primary care patients.

A number of studies have investigated the role of demo-

* Corresponding author. Tel.: +1-775-784-6828; fax: +1-775-327-5043.

E-mail address: hhazlett@unr.nevada.edu (H. Hazlett-Stevens).

graphic and other patient characteristics in the utilization of specialty mental health care services. For example, Sue and colleagues have consistently demonstrated that Asian Americans are less likely than White Americans to disclose symptoms of mental distress and to use mental health services, despite equivalent need for such services [4–7]. Mexican Americans may also underutilize outpatient community mental health services [7], and epidemiological research reveals that African Americans underutilize mental health services compared to White individuals [8]. Community survey studies examining rates of antidepressant medication use have further shown that Black individuals are less likely than White respondents to use antidepressant medication [9] and that other factors in addition to minority status, such as male gender, good physical health, and age (at either end of the age continuum) predicted nonuse of medication among respondents endorsing major depression [10].

An investigation of panic disorder reported that individuals eligible for a randomized study comparing pharmacological treatment to cognitive behavioral therapy most often refused participation (i.e., “pretreatment attrition”) because they were unwilling to take medication for panic or to change their current psychotropic medication [11]. This investigation was conducted as part of a larger panic disorder clinical trial, which further found that attrition among patients who did initially elect to participate was associated with lower household income and education but unrelated to psychiatric comorbidity [12].

However, many patients with anxiety disorders seek treatment from medical facilities, such as primary care clinics [13]. It is therefore uncertain how well these specialty mental health service findings generalize to anxiety disorder patients in primary care settings, especially given evidence that factors affecting mental health service utilization in the general medical sector may differ from those in the specialty mental health sector [14]. Furthermore, patients who do receive treatment for depression in general medical settings are more likely to be women, African American, over the age of 65, report a high school (or less) education, and are less likely to fall in the highest socioeconomic level than patients who receive treatment for their depression in specialty mental health settings [15]. Available utilization research conducted in the primary care setting has shown no differences in rates of health and mental health care service utilization between African American and White primary care patients [16]. In an investigation of depressed primary care patients, depression treatment and antidepressant use were associated with higher income and education [17]. In addition, clinical diagnosis of a depressive disorder and comorbid anxiety also were associated with increased depression treatment utilization. These results are consistent with survey results showing that depressed primary care patients indicating interest in depression treatment had higher incomes, exhibited greater knowledge about antidepressant medication, and were more likely to have a comorbid anxiety disorder than those preferring no depression treatment [18].

Other primary care setting research has addressed patients’

preferences for type of mental health treatment. Among depressed primary care patients interested in treatment, female gender, African American ethnicity (compared to Caucasian patients), knowledge about counseling treatment, and lack of recent antidepressant medication predicted preference for counseling over medication [18]. However, this survey was limited to depressed patients and was designed such that patients were forced to choose one form of treatment over another by indicating preference. In another survey investigation, an unselected sample of primary care patients were asked about their desire for treatment of emotional distress from their physician [19]. Results indicated that 63% of all primary care patients indicated it would be at least “somewhat important” for their physician to help them with their emotional distress. This desire for help was significantly associated with a diagnosis of depression, perceptions of emotional distress, and mental health functioning. Finally, 61% of all patients and 89% of depressed patients wanted counseling, while 23% of all patients and 33% of depressed patients desired medication for emotional distress.

Patient preferences for type of treatment have also been applied to major depression treatment outcome research in the primary care setting. While counseling and medication treatments might not yield different outcomes overall, patients who preferred counseling benefited more from this type of treatment than those who did not, although the same was not true for medication treatment [20]. Furthermore, accommodating patient preferences might increase entrance into depression treatment [21], although these authors reported that patient preferences changed in a small minority of patients. Additionally, while beliefs that medication will help depression predicts the use of antidepressant medication, such beliefs do not necessarily predict utilization of other mental health interventions, such as seeing a psychologist, counselor, or other mental health professional or learning relaxation techniques [22].

The present survey investigation was conducted to identify demographic and clinical patient characteristics that are related to willingness to consider medication and to consider psychosocial intervention among primary care patients with recurrent panic attacks. Based on the available utilization research findings, we predicted that Asian Americans would be less willing to consider either type of treatment than White Americans, that African Americans would be less likely to consider medication (but not necessarily psychosocial intervention) than White Americans, and that Hispanic/Mexican Americans might also be less willing to consider both forms of treatment than White patients. With regard to other demographic variables, we hypothesized that older age and female gender would be associated with greater willingness to consider medication, while lower education level would be associated with less willingness to consider either type of treatment. Finally, we expected that poorer physical health and other comorbid anxiety disorders (PTSD and/or social phobia) would be associated with increased willingness to consider medication.

Table 1
Demographic characteristics for the patients screened and for the panic patients

	All patients (N = 4198)	Panic patients (N = 1043)
Mean age, years	40.67 (13.92)	39.70 (13.03)
Female (%)	63.0	73.2
Education (%)		
<High school	3.9	5.2
High school graduate	8.7	10.7
Some college	30.0	36.2
College graduate	32.8	29.3
Graduate school or greater	24.5	18.7
Ethnicity (%)		
White/Caucasian	56.7	58.2
Black/African-American	11.3	12.9
Latino/Hispanic	12.4	12.2
Asian/Pacific Islander	14.0	8.1
Other	5.5	8.6

2. Method

2.1. Participants

Participants were recruited from five academic medical center primary care clinics in Seattle (General Internal Medicine Clinic and Harborview Medical Center Adult Medical Clinic at the University of Washington), San Diego (UCSD Family Medicine Clinic), and the Los Angeles area (UCLA Medical Center Family Health Center and Santa Monica UCLA Les Kelley Family Health Center) as part of a larger ongoing investigation of panic disorder in primary care. A total of 4,198 primary care patients completed a screening questionnaire while waiting for their physician appointment. Approximately 25% of all primary care patients approached refused participation. Of all the patients screened, 1,043 (24.8%) indicated a recent panic attack episode and were therefore included in study analyses. See Table 1 for demographic characteristics of the patients screened and of the panic patients used in subsequent analyses.

2.2. Procedure

Patients were approached in the waiting area and asked to complete an anonymous questionnaire for a study about anxiety in primary care medical clinics. This screening questionnaire consisted of demographic information including age, gender, ethnicity, and education level. The ethnicity item asked participants to indicate whether or not they considered themselves each of the following: 1) African American/Black; 2) Asian; 3) Pacific Islander; 4) Caucasian/White; 5) Hispanic or Latin American or Latino/Latina; 6) Native American, American Indian, or Alaskan Native; or 7) Other. To ensure adequate representation for each category, ethnicity for all analyses was collapsed into the following five categories: 1) African American/Black; 2)

Asian or Pacific Islander; 3) Caucasian/White; 4) Hispanic or Latin American or Latino/Latina; and 5) Other. Participants who endorsed more than one ethnicity were categorized according to a hierarchy in which priority was given to Hispanic, followed by African American/Black, followed by Asian, followed by Caucasian/White. The education level question consisted of seven response choices: 8th grade or less, some high school, high school graduate, technical school, some college, college graduate and graduate school. Education was treated as a continuous variable by collapsing across the following five levels: 1) less than high school diploma; 2) high school graduate; 3) some post-high school education; including technical school or college; 4) college graduate; and 5) graduate school. Health status was assessed by asking participants to rate their health on a 5-point Likert scale, ranging from excellent to poor. In addition, a checklist of 9 common health conditions, such as high blood pressure and heart disease, was included and summed, yielding a score ranging from 0 to 9. Finally, the questionnaire contained diagnostic screening items for symptoms of panic disorder, PTSD, and social phobia.

Patients screened positive for a panic attack episode if they endorsed one of two probe questions (In the past 3 months, did you ever have a spell or attack when, for no apparent reason, your heart suddenly began to race, you felt faint, or you couldn't catch your breath? In the past 3 months, did you ever have a spell or attack when all of a sudden you felt frightened, anxious, or very uneasy?) and indicated the presence of at least one such attack in the past month. These initial probe questions were developed to identify patients with a recent panic attack episode and are highly sensitive although possess relatively low specificity [23]. Patients endorsing these items were also asked the following two treatment-related questions: "Would you be willing to take medication to help with these spells or attacks?" and "Would you be willing to meet with a specialist 6 times over 8 weeks to learn how to control these spells or attacks?" Response choices for these two questions were "Not at all willing" and "Would consider it."

Comorbid PTSD was indicated if panic patients endorsed ever experiencing a traumatic or life-threatening event and either recurrent dreams or nightmares about the event and/or recurrent thoughts or flashbacks in the past 3 months. Comorbid social phobia was indicated if they endorsed often feeling nervous, self-conscious, or uncomfortable when around other people in the past 3 months and that being anxious or uncomfortable around others is a problem.

2.3. Data analysis

A series of logistic regression analyses were performed to determine if any of the demographic and health-related variables predicted responses to the two treatment-related questions (Would you be willing to take medication to help with these spells or attacks? Would you be willing to meet

with a specialist 6 times over 8 weeks to learn how to control these spells or attacks?) among those patients screening positive for a panic attack episode. A number of patients completed only the demographic and panic-related items before they were interrupted for their primary care appointment. Therefore, logistic regression analysis including only the demographic variables (age, gender, education level, and ethnicity) first was conducted to include as many patients as possible. Of the 1,043 panic patients, the dependent variable and complete demographic data were available for 1,014–1,019, depending on whether the dependent variable was willingness to consider medication or to meet with a specialist. Complete data for the dependent variable and all demographic and clinical variables were available for 890–891 patients.

3. Results

3.1. Willingness to consider medication

Of the total 1,043 patients indicating a recent panic attack episode, 1,025 answered the willingness to consider medication question. Of these 1,025 panic patients, 652 (64%) indicated willingness and 373 (36%) were unwilling to consider taking a medication for panic disorder. Approximately 88% of the panic patients willing to consider medication were also willing to consider psychosocial treatment. Logistic regression including demographic variables indicated an overall significant effect for the model [$N=1014$; $\chi^2(7) = 54.86$, $p < 0.0001$]. Willingness to consider medication treatment was associated with higher age and lower education level. Specific comparisons of the Caucasian/White ethnic group to each of the other four ethnic groups revealed that both Asian/Pacific Islander and African American/Black groups were less likely to indicate willingness to consider medication than the Caucasian/White group. Predicted value statistics revealed a mean value of .519 for the Asian/Pacific Islander group and a mean value of .569 for the African American/Black group, indicating that Asian/Pacific Islander patients on average were only 51.9% likely to indicate a willingness to consider medication and African American/Black patients on average were only 56.9% likely to indicate a willingness to consider medication, compared to average rates exceeding 64% among the remaining ethnic groups. See Table 2 for Wald's test statistics, p -values, and predicted value statistics.

Logistic regression was repeated to include the above demographic variables and the following health-related variables: overall general health status rating item (1–5 scale), total number of health problems endorsed on the checklist (0–9 score), indication of heart disease on the checklist, positive screen for PTSD, and positive screen for social phobia. Indication of heart disease was included in the analyses because this medical condition might enhance

Table 2

Demographic variables as predictors of willingness to consider medication ($N = 1014$)

	Wald's test (df)	$p <$	Predicted value statistic
Gender	2.14 (1)	ns	
Age	9.63 (1)	0.01	
Education	34.26 (1)	0.0001	
Ethnicity*	14.53 (4)	0.01	
White/Caucasian			.663
Black/African-American	11.22 (1)	0.001	.569
Latino/Hispanic	0.63 (1)	ns	.655
Asian/Pacific Islander	5.25 (1)	0.05	.519
Other	0.39 (1)	ns	.648

* Specific comparisons between ethnic groups were conducted by comparing the Caucasian/White group to each of the other four ethnic groups.

patients' fear of panic sensations, causing reduced willingness to pursue panic treatment if physical exertion was anticipated for the psychosocial intervention. A total of 890 participants had complete data for inclusion in this analysis. This model was again significant [$\chi^2(12) = 113.02$, $p < .0001$], with age [Wald's test (1) = 5.61, $p < 0.05$], education [Wald's test (1) = 17.43, $p < 0.0001$], and ethnicity [Wald's test (4) = 17.34, $p < 0.01$] emerging as significant predictor variables in the same directions as before. In addition, the general health status rating [Wald's test (1) = 11.14, $p < 0.001$], screening positive for PTSD [Wald's test (1) = 5.31, $p < 0.05$], and screening positive for social phobia [Wald's test (1) = 18.62, $p < 0.0001$] were significant. Reported willingness to consider medication was associated with poorer self-reported health as well as the presence of PTSD and social phobia symptoms.

3.2. Willingness to meet with a specialist

Of the total 1,043 patients indicating a recent panic attack episode, 1,030 answered the willingness to meet with a specialist question. Of these 1,030, 693 (67%) indicated willingness and 337 (33%) were unwilling. Approximately 82% of the panic patients willing to consider this psychosocial treatment were also willing to consider medication. The same two analyses conducted for medication willingness were conducted with response to the specialist question as the criterion variable. In the first demographic analysis, age, gender, education level, and ethnicity were entered as predictor variables. Results did not indicate an overall significant effect for the model [$N=1019$; $\chi^2(7) = 12.85$, $p < 0.076$], with age [Wald's test (1) = 3.46, $p < 0.063$] and ethnicity [Wald's test (4) = 8.79, $p < 0.067$] only approaching statistical significance. However, when this logistic regression analysis was repeated to include the above demographic variables and the health-related variables, the model was significant [$N=891$, $\chi^2(12) = 62.00$, $p < 0.0001$]. Screening positive for PTSD [Wald's test (1) = 10.42,

$p < 0.01$] and screening positive for social phobia [Wald's test (1) = 20.86, $p < 0.0001$] emerged as significantly related in the positive direction. Thus, whereas reported willingness to meet with a specialist to learn to control panic attacks was not associated with demographic or physical health variables, patients with comorbid symptoms of PTSD and of social phobia were more likely to consider this form of treatment than patients without these additional symptoms.

4. Discussion

Consistent with much of the available research, the demographic variables of ethnicity, age, and education were associated with willingness to consider medication treatment for panic. Caucasian patients were more likely than Asian or African American/Black patients to indicate medication willingness, but not more likely than Hispanic/Mexican American patients. Older age was associated with greater medication willingness, whereas education was related to medication willingness in the opposite direction (i.e., lower education associated with higher willingness likelihood), and gender did not predict medication willingness. However, it is possible that other patient factors not assessed, such as clinical severity, could account for these unexpected results, as more severe patients might be more motivated to consider treatment. In addition, the unexpected finding regarding education level may have been affected by the high education level of the entire patient sample: over 57% of all patients screened were college graduates or had graduate school training. Finally, patients' physical health ratings and responses to the comorbid anxiety disorder questions indicated that poor physical health and the presence of comorbid PTSD and/or social phobia symptoms were associated with greater willingness to consider medication.

Willingness to consider a psychosocial intervention was unrelated to demographic and physical health variables. These null findings in part may have resulted from the less stigmatizing, lay-language wording of this item (i.e., "meet with a specialist. . . to learn how to control these spells or attacks" instead of "psychotherapy" or "psychological treatment"). Furthermore, the similar rates of willingness found for each type of treatment contrast with the vast majority of primary care patients desiring counseling and minority desiring medication reported for depression [19]. Nevertheless, compared to medication treatment, results do suggest that demographics play less of a role in primary care patients' attitudes toward nonpharmacological treatment when such treatment is described as above. These findings do not necessarily imply, however, that the labels attached to a mental health treatment play a significant role in determining patient compliance. Rather, they suggest that the manner in which physicians conceptualize and describe panic symptoms may impact patient acceptance of such treatments irrespective of demographic and physical health variables.

Only comorbid PTSD and/or social phobia symptoms were associated with greater willingness to consider this form of treatment. It is unclear whether these additional anxiety symptoms were uniquely associated with greater willingness to consider the panic intervention or whether this association merely reflects greater panic severity among patients with comorbid anxiety disorders.

When interpreting these results, it is important to realize that willingness to consider treatment is not the only factor affecting mental health care utilization. Many other factors, including marital status, income, other mental health and psychiatric variables, and situational barriers to care were not measured in the current study but are related to treatment received [24]. While the current results demonstrate decreased willingness to consider medication among African American patients, other research has shown that reduced offer of antidepressant medication [25] and the perceived stigma associated with mental health treatment [26] may impact the treatment of depressed African American patients more than White patients.

Other limitations to the current investigation should be considered. First, patients included in these analyses screened positive for panic by endorsing brief questions about recurrent panic attacks, but formal diagnostic assessments were not conducted. Thus, patients could have endorsed panic symptoms that were not indicative of true panic disorder, as this screening tool is not expected to possess high specificity. Second, due to the waiting room administration of the questionnaire, missing data on some variables led to different sample sizes for the logistic regression analyses. However, all of the initial demographic variable results replicated when these analyses were repeated with the smaller samples containing complete data. Finally, willingness to consider medication and psychosocial intervention treatment was measured with single questionnaire items that might not reflect patients' ultimate decision to engage in mental health treatment. In a related vein, patient willingness to consider treatment at the time the questionnaire was administered may not reflect willingness at a later point in the course of patients' panic disorder, and willingness might be amenable to change following further education about available treatments. Thus, the current findings may reflect patients' attitudes at the earliest stage of this process, before discussing their problem with a physician or before receiving information about the disorder or its treatment. The current findings identify characteristics of individuals who are most likely to benefit from initial education and suggest that such clinical efforts target these individuals.

The present findings may have useful implications for mental health practice in the primary care setting. Certain patients suffering from panic attacks, such as Asian or African American, younger, and physically healthy patients, might be less willing to consider medication without the involvement or recommendation of a health care provider. Thus, these patients especially may benefit from patient

education regarding pharmacological treatment if such education leads to increased utilization of effective treatment. Investigation of other barriers to medication acceptance for these different demographic groups could result in brief interventions that target these concerns, thereby increasing compliance.

Furthermore, highly effective psychosocial interventions for panic have been developed [27], and acceptability of this form of treatment does not appear related to demographic or physical health characteristics in the primary care setting. Future investigation of the specific aspects of both pharmacological and psychosocial interventions that deter panic patients from treatment is needed. Such research could lead to development of simple interventions that improve patient understanding and acceptance of these mental health treatments, and the effectiveness of these brief interventions could then be tested in primary care settings.

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