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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.

Treating panic disorder in primary care: a collaborative care intervention

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Abstract

Efficacy research indicates the success of cognitive behavioral treatment and medication treatment for panic disorder with or without agoraphobia. However, research findings to date possess limited generalizability beyond specialty mental health settings. We present a model for collaborative care treatment for panic disorder in the primary care setting that combines cognitive behavioral therapy and medications, and involves a behavioral health specialist, psychiatrist, and primary care physician. Educational aids that are aimed to educate and activate patients to participate as partners in their care are provided. We outline the ways in which the standard treatment was modified, in light of the nature of the sample and setting, such as fewer sessions and management of comorbidity. Also, we provide evidence for acceptability of this intervention to primary care physicians and patients. This description is intended to lay the groundwork for continued research efforts in the extension of efficacious treatments into primary care settings.

1. Introduction

Significant psychosocial and pharmacological advances have been made in the treatment of panic disorder with or without agoraphobia. For example, controlled studies demonstrate the efficacy of cognitive behavioral therapy for panic disorder and agoraphobia in the short term and over follow-up [1–4]. In addition, there is extensive evidence for the efficacy of tricyclic antidepressants, monoamine oxidase inhibitors, benzodiazapines and selective serotonin reuptake inhibitors, with the latter now considered the medication of choice [5–7]. However, these results are based largely on nonrepresentative samples from specialized settings with expert clinicians and restricted outcome measures. In this paper, we present our model for extending these efficacious treatment approaches for panic disorder to naturalistic samples, settings and providers [8]. By so doing, we aim to facilitate continued research efforts through replication and extension. Results concerning the effectiveness of our intervention in comparison to treatment-as-usual in primary care settings will be presented in subsequent papers.

1.1. The naturalistic setting: primary care

Panic disorder is prevalent and costly in primary care settings, making the need for effective interventions paramount. Community prevalence studies [9,10] indicate a current (last 12 months) prevalence rate for panic disorder of 1 to 3% of the population, whereas estimates from primary care settings range from 1.5 to 13%, with a median of 4 to 6% [11–13].

Elevated prevalence in primary care settings may be in

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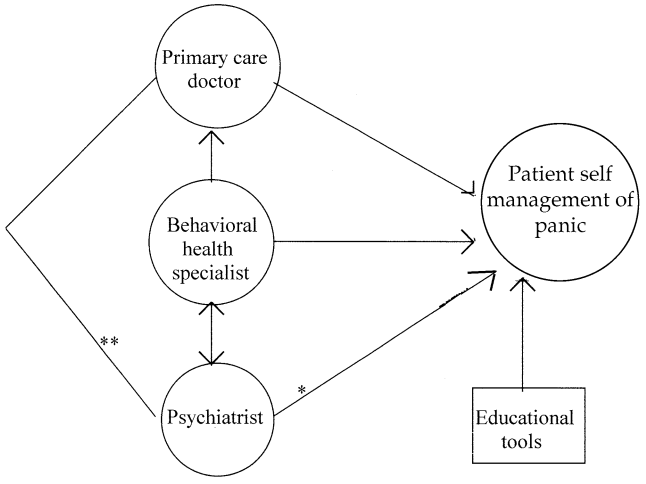

Fig. 1. Model of collaborative care

part due to the high comorbidity between panic disorder and unexplained physical symptoms, and the tendency for patients to interpret panic-related symptoms as evidence of medical illness [14,15]. Consequently, panic disorder patients use primary care services at three times the rate of other patients [16] exceeding that of depressed patients [17], and patients with other psychiatric disorders [18].

Unfortunately, panic disorder is poorly recognized in primary care [19–21]. Moreover, even when recognized by primary care physicians, panic and anxiety disorders appear to be inadequately treated [22–24]. According to our own investigation [25] of 43 primary care panic disorder patients followed for six to ten months, 63% did not receive any form of therapy, only 11% received liberally defined cognitive behavioral therapy, less than 50% received medications, and only 26% received an efficacious medication regimen.

Thus, we have developed an intervention for panic disorder that is tailored to a primary care setting. Differences between specialized mental health care and primary care guided our intervention strategy. For example, panic disorder patients in primary care are likely to differ from patients who self-initiate mental health treatment in terms of psychiatric and medical comorbidity, education and income level, ethnicity and motivation and attitudes about mental health and its treatment.

2. A collaborative care approach

Despite being the first contact for many patients seeking mental health care, primary care physicians are not well positioned for delivery of such care, with their time limited to 10 to 15 min per patient, and by multiple competing demands. It may be for this reason that direct feedback to physicians about diagnosis and recommended treatments had very little impact on high health care utilizers with panic disorder [22]. Thus, some have begun to explore the effectiveness of integrating mental health services into the primary care setting. For example, Katon [26] developed a collaborative care model for depression in which a psychiatrist and physician met alternately with patients, and patients received educational videos and pamphlets. This approach to treatment increased adherence to antidepressant medications, improved satisfaction with care and lessened symptoms of depression compared to treatment-as-usual. In a second study, four to six sessions of cognitive-behavioral therapy from a psychologist combined with psychiatrist medication recommendations based on weekly reviews with psychologists of participant progress led to more improvements in depression than treatment-as-usual [27]. Both studies found the interventions were cost effective for patients with major depression. We based our collaborative care treatment for panic disorder on this model for depression.

2.1. Adaptation of panic disorder treatment into a collaborative care model for primary care

Our collaborative care model involves a therapist (behavioral health specialist), psychopharmacologist and primary care physician. In this section, we describe the nature of the collaborative model and adaptations to the treatment for panic disorder to suit the needs of a primary care setting.

2.2. Type of treatment

We offered a combination of cognitive behavioral therapy and psychotropic medications for panic disorder, given that 70% of our pilot primary care sample indicated an interest in receiving both forms of treatment [25]. The same is true for anxiety disorder patients in psychiatric settings [28]. Although questions regarding long-term efficacy and relapse remain [2] there is good evidence for the acute benefit of combining medications with cognitive behavioral therapy for panic disorder, especially for samples with substantial agoraphobia [29]. We maintained a flexible approach once patients were enrolled in the study. If they refused to participate in the cognitive-behavioral portion of the treatment, recommendations regarding medication management were still provided. Similarly, the cognitive-behavioral portion of the treatment continued even if patients refused antipanic medications.

2.3. Length and schedule of treatment

We shortened treatment relative to usual procedures in specialty mental health settings (where cognitive behavioral therapy lasts from 10 to 20 or more visits) so that the treatment would be more acceptable for primary care patients. Our choice to shorten the treatment was supported by existing evidence for the efficacy of abbreviated cognitive

Table 1.
Flowchart of provider contacts with patients

Week 0	Screen and diagnostic interview
Week 1	In-clinic session 1: Psychoeducation about panic and anxiety; psychobiological model of panic disorder; description of medication and cognitive-behavioral treatment; medication adherence, beliefs, and fears of medication side effects; assigned reading from self-help manual
	Optional meeting with Psychiatrist
	Meet with Primary Care Physician Reinforce involvement with CC program
Week 2	In-clinic session 2: Medication side effects, adherence; explore role of thoughts in panic and anxiety; identify errors in thinking; corrective breathing; assign reading from workbook and practice identifying negative thoughts and corrective breathing
Week 3	In-clinic session 3: Medication check; reinforce corrective breathing; challenge errors in thinking and generate realistic alternative thoughts in relation to panic, anxiety and medication; assign reading from workbook and practice with challenging negative thoughts and corrective breathing
Week 4	In-clinic session 4: Medication check; reinforce corrective breathing and cognitive restructuring; identify feared bodily sensations and practice exposure; assign reading from workbook and practice challenging negative thoughts and exposure to a feared bodily sensation
Week 6	In-clinic session 5: Medication check; reinforce corrective breathing, cognitive restructuring and exposure to feared bodily sensation; identify feared agoraphobic situations and rehears exposure; assign reading from workbook and practice exposure to feared bodily sensation and feared agoraphobic situations
Week 8	In-clinic session 6: Medication check; reinforce corrective breathing, cognitive restructuring, and exposure to feared bodily sensations and agoraphobic situations; review skills and progress; develop relapse prevention plan
Week 11	Phone contact 1: Reinforce relapse prevention plan
	Meet with Primary Care Physician Reinforce relapse prevention plan
Week 14	Phone contact 2: Reinforce relapse prevention plan
Week 20	Phone contact 3: Reinforce relapse prevention plan
Week 32	Phone contact 4: Reinforce relapse prevention plan
Week 44	Phone contact 5: Reinforce relapse prevention plan
Week 56	Phone contact 6: Reinforce relapse prevention plan

behavioral treatments, ranging from the provision of self-help materials alone to a combination of self-help materials and up to seven therapist visits with additional telephone contact [30–34]. From 53% to 83% of these samples were reportedly free of panic attacks at the end of treatment. Thus, in our adaptation, we provided six visits with a behavioral health specialist in the primary care clinic and six follow-up phone contacts over the subsequent 12 months.

Originally, the six in-clinic visits were scheduled to occur over an expanding spaced schedule of eight weeks (first four sessions in four weeks, and last two sessions in four weeks). Similarly, the six follow-up phone contacts were intended to occur over an expanding schedule of 3, 6, 12, 24, 36 and 48 weeks later. These schedules were chosen to enhance eventual self-reliance and management as well as retention of learning during treatment [35–36]. However, implementation of this schedule was problematic due to issues such as low patient motivation and scheduling difficulties (i.e., limited availability of clinic rooms, patient-behavioral health therapist schedules and transportation problems). We shifted to a model in which as many of the six in-clinic sessions as possible were to be completed within three months. For those who completed a minimum of 4 in-clinic sessions in the time frame indicated the remaining sessions were covered during the first one or two subsequent phone contacts with behavioral health specialists. Those who completed less than four in-clinic sessions received support and referral only during follow-up phone contacts, and thus did not receive the full set of cognitive behavioral skills.

2.4. Educational aids

As in some of the abbreviated treatment studies, and in keeping with the collaborative care depression studies, we combined our shortened intervention with educational aids in the form of a demonstration video, workbook, and audiotapes of each in-clinic visit. The videotape was a 30-min overview of the biology and pharmacotherapy of panic, common medication fears and side-effects and their management, and cognitive behavioral treatment portrayed via interactions between a patient and behavioral health specialist. The patient workbook was a revised and condensed version of the currently available *Mastery of Your Anxiety and Panic, 3rd ed* [37] and *Agoraphobia Supplement, 3rd ed* [38], organized to be consistent with our six-session structure, and modified to include education about the biology of medications and management of medication adherence problems. Also, the workbook was rewritten to be readable at a sixth grade level and sensitive to ethnic differences. Each participant received a copy of the workbook and videotapes prior to attending the first clinic visit, with the intent of allaying fears and misconceptions about psychotherapy and psychotropic medications, and encouraging full participation. The audiotapes of each in-clinic visit with the behavioral health specialist were intended to reinforce learning.

2.5. Coordinated care

Care was fully coordinated by using rapid systems of two-way communication, and with behavioral health spe-

cialists assuming a pivotal role. They were in contact with the primary care physician after each visit with a patient via a standardized written consulting note, phone and e-mail, to relay information on patient progress and any recommended medication adjustments made by the study psychiatrist. Also, the behavioral health specialists met weekly with study psychiatrists to review cases. Our "expert psychiatrist" role was derived from studies of the treatment of hypertension [39], diabetes [40], and hypercholestrolemia [41], as well as a large meta-analysis of trials to improve physician practice [42]. On-site, case-by-case feedback to the primary care provider by those with specialized knowledge (medical specialists, physician extenders and proxies) was the form of provider education most likely to improve patient outcome. Thus, our expert psychiatrists gave medication recommendations with the aim of improving primary care physicians' management of panic disorder. These recommendations were relayed to the primary care physician by behavioral health specialists.

Also, we coordinated care with community resources for management of ongoing emotional and social problems. In addition, we provided systematic follow-up care via the brief periodic telephone calls from the behavioral health specialist to reinforce what was learned during in-clinic visits and adherence to medication, and allow for close monitoring and facilitation of psychiatric consultation if needed.

2.6. Treatment setting

We conducted the treatment sessions in the clinics because patients are more likely to accept mental health treatment when offered in the primary care setting [43]. Also, it decreased burden on patients, presented a more collaborative care model to patients, and facilitated communication with physicians. In some overcrowded clinics, space was at a premium, and behavioral health specialists met with patients at nonpeak or after-hours (e.g., early evening) clinic times.

2.7. Patient eligibility

We recruited as broadly as possible in order to maximize the generalizability of our procedures to primary care samples at large. Our eligibility criteria included a diagnosis of panic disorder with or without agoraphobia (chronic or recent), with at least one panic attack in the last month, an interest in treatment and willingness to speak with a behavioral health specialist and willingness to consider taking medication, plans to continue receiving care at the clinic over the next 12 months, aged 18 to 65 years, English speaking and reading, and access to a phone.

Patient eligibility involved two stages. First, they responded to a brief screen, beginning with two gating questions regarding the occurrence of anxiety attacks or unexplained paroxysms of physical symptoms (e.g., tachycardia). Those who responded affirmatively completed a subsequent three questions about the occurrence of attacks outside dangerous or performance situations, their frequency (last month), and the extent of worry about the recurrence of panic attacks. This simple screen is highly sensitive although lacking in specificity [44]. Positive responses to the screening questions was followed by a lay administered structured diagnostic interview [45], with follow-up questions asked of the patient by a psychiatrist in the event of diagnostic uncertainty. Patients were excluded if they had conditions that threatened life or participation in the study, including major medical illnesses, active suicidality, pregnancy, dementia, mental retardation, psychosis, and current substance abuse/dependence. Methods of screening and diagnosing are described in detail elsewhere [8].

2.8. Therapist eligibility

We chose therapists who were not previously specialized in cognitive-behavioral treatments for panic disorder to increase generalizability to nonresearch settings where providers are likely to be less qualified or specialized in treatments for panic disorder. We selected Masters level or Doctoral level therapists, although persons with other qualifications, such as nurse practitioners or social workers, may be equally suitable. The question of how much training is necessary to become an effective cognitive behavioral therapist has not been directly tested. Because extensive training would not be feasible on a cost basis in primary care settings, we elected to provide a modest level of training to our therapists compared to the level of training typical for psychological therapies.

Therapists first read a detailed intervention manual along with several book chapters describing the principles and methods of cognitive behavioral therapy for panic disorder. Next, they watched six videotapes showing in-clinic delivery of collaborative care. Then, they attended a day-long workshop on cognitive behavioral therapy procedures as well as other components of the collaborative care treatment including interdisciplinary communication about the overall care of the patient and cultural sensitivity training [46]. Next, they treated two to three training cases while receiving supervisory feedback from reviews of audiotapes of each session. Therapists who did not pass an independent adherence rating were given further training. After certification, therapists received ongoing biweekly group supervision for their current patient caseload and attended half-day workshops every six months.

2.9. Cultural diversity

The efficacy for cognitive behavioral and pharmacological treatments for panic disorder has not been systematically examined across different cultural groups. Limited

extant data include a report by Williams and Chambless [47] of a nonsignificant trend for African-Americans to benefit less from cognitive behavioral therapy in terms of mobility, anxiety and panic attacks. Similarly, Friedman and Paradis [48] noted that African Americans did less well with behavioral therapy than Caucasians, although a later, larger study found no such differences [49]. Knowing that our sample would be ethnically and socio-economically diverse (e.g., the UCLA clinic sample is comprised of approximately 17% African-Americans, 20% Hispanics, and 12% Asian/Pacific), although all English speaking, we took several steps to enhance cultural sensitivity. The possibility of higher dropout in ethnic minority patients was addressed by cultural sensitivity training of both assessors and therapists, which has been shown to decrease dropout [46,50]. This training included reading materials and training in a workshop format by an expert in cross-cultural mental health. Second, an Ethnic Advisory Board reviewed the various study materials, which were then modified in accordance with their recommendations. In addition, the advisory board made recommendations for the intervention strategies; for instance, board members noted that "challenging of cognitions" in the cognitive restructuring component may be too confrontational for certain ethnic groups and thus this portion was modified. Third, we attempted to recruit at least one minority behavioral health specialist at each site and included individuals from minority ethnic groups in the training videos. Even though one retrospective nonexperimental study found that ethnic match of provider and client in public mental health treatment is associated with lower dropout rates over time [51], matching was not feasible for this study.

3. Content of collaborative care treatment

In this section, we describe the actual steps involved in the collaborative treatment for panic disorder. The treatment manual is available upon request.

3.1. In-clinic visits and phone calls with behavioral health specialists

Behavioral health specialists provided four 45-min and two 30-min clinic visits, followed by six 15-min phone calls. The cognitive behavioral therapy was an abridged form of an empirically validated and effective treatment known as Panic Control Treatment [28]. This treatment entails several components, including psychoeducation and cognitive restructuring aimed to educate patients about the nature of anxiety and panic and correct misconceptions about the physical symptoms of panic attacks and about medication and its side-effects. A second component, breathing retraining, aims to educate patients about respiratory physiology and teach respiratory regulation. The interoceptive exposure component aims to extinguish fears of bodily sensations by repeatedly inducing sensations and applying panic control strategies until fear diminished. The in vivo exposure component aims to extinguish fears of agoraphobic situations by repeated and systematic confrontation with those situations until fear diminished. Each component is tailored to the individual's specific presentation and needs. For reasons of treatment acceptability and patient burden, we did not include the usual on-the-spot monitoring of panic and anxiety, and we decreased the usual number of homework assignments (e.g., practice of interoceptive exposure).

Another difference from usual Panic Control Treatment was our flexibility in managing comorbid conditions. Depressive disorders are highly comorbid with panic disorder and agoraphobia [52] as are other anxiety disorders [53]. No studies to date have demonstrated the superiority of simultaneously addressing co-occurring disorders versus maintaining a single disorder focus. One indirectly related study reported superior outcome from structured/focused versus unstructured behavior therapy for phobias [54]. With view to patient acceptability in the primary care setting, and in the absence of direct empirical evidence, we opted to manage comorbid conditions alongside the treatment for panic disorder, using a set of brief structured cognitive-behavioral modules (e.g., exposure therapy for specific phobias, cognitive restructuring for generalized anxiety disorder). Sometimes this extended to stressful life events that took primacy over panic disorder, given the multiple medical, psychosocial and environmental problems characteristic of our sample of primary care patients. Overall, we gave less emphasis to the comorbid diagnoses than panic disorder and continually attempted to redirect treatment focus back to panic disorder.

The in-clinic visits ended with development of a relapse prevention plan that covered medication adherence and implementation of cognitive-behavioral strategies, and coordination of continued care with the primary care physician and other community resources. The six phone contacts following the in-clinic visits reinforced the relapse prevention plan, allowed ongoing symptom monitoring and facilitated psychiatric consultation in the event that panic worsened or was treatment resistant. Use of the telephone has been shown to be effective for delivering both primary medical care for various chronic illnesses [55] and psychological interventions in medically ill patients [56].

3.2. Medication recommendations from psychiatrists

Highly experienced and specialized psychopharmacology experts provided recommendations for medication regimens. The psychiatrists used information gathered by behavioral health specialists to make medication recommendations. This information included past and current medication regimens and side effects, attitudes about medication, compliance, and clinical status (number of panic attacks, average level of anticipatory anxiety regard-

ing panic, level of phobic avoidance, and average daily depression since the last contact). Psychiatrists also provided, during case reviews with the BHS, additional strategies to overcome resistance to taking medication (when needed) and advice about articulating panic-medical illness interactions for some patients with complex medical comorbidities (e.g., asthma/COPD and panic-related shortness of breath). Recommendations for medication regimens were relayed by behavioral health specialists to primary care physicians. At any time involving complex situations, direct communication was initiated between the psychiatrist and primary care physician.

Medication recommendations were derived from a psychopharmacology algorithm, developed after a careful review of the literature and consultation with various experts, and since published [7]. The algorithm included rules for the selection of initial medication, types of medications, dosage schedules, management of side effects, maintenance and discontinuation strategies, and covers modification of current medication regimens as well as addition of new medication regimens. The algorithm is suitable for use by primary care physicians. Psychiatrists also advised behavioral health specialists about strategies for managing medication side effects, to be conveyed to patients. Occasionally (5–10% of the time), patients with difficult medical management issues and poor clinical response, whether in acute phase of treatment or follow-up, were seen directly for consultation by psychiatrists.

3.3. Contact with primary care physicians

The primary care physicians were physicians at each clinic who were willing to participate in the study. Any patient eligible for the study but assigned to a physician unwilling to participate was excluded. Physicians were given a one-hour didactic presentation on the combined cognitive-behavioral and pharmacotherapy treatment of panic disorder, as well as the medication algorithm, with the belief that they would be more able to effectively use the psychiatrist's recommendations with this algorithm in hand. Physicians received recommendations directly from the behavioral health specialist plus a written progress report from each behavioral health specialist contact with patients. Also, physicians had the option of directly contacting the behavioral health specialist or psychiatrist.

Physicians were asked to meet with patients after the first in-clinic visit with the behavioral health specialist to reinforce involvement in the collaborative care program, and to meet again several weeks after completion of the in-clinic visits to reinforce the relapse prevention plan. After completion of collaborative care, patients were encouraged to remain on medications for one year and meet every three months, if stable, with their physician to monitor their status.

3.4. Acceptability to patients

The effectiveness of our collaborative care model for panic disorder in primary care can be evaluated from a number of different perspectives. Symptom status, functioning, health care utilization, and direct and indirect costs will be reported in subsequent reports. Another measure of effectiveness is the acceptability of treatment, which also can be measured in a number of different ways. Particularly objective indices are the physician's willingness to participate in the collaborative treatment, the patient's willingness to enter treatment, and the patient's attendance at schedule in-clinic sessions. Overall, very few physicians (7.5%) have declined to participate in this study, knowing the procedures involved. Thus, the procedures of our collaborative intervention appear acceptable to the vast majority of physicians in our university-affiliated clinics. In terms of patients willing to enter treatment, the rates for stated refusal to participate among eligible patients are exceedingly low (.01%). However, an additional 6.5% who stated willingness to participate were not subsequently contactable or stated they were too busy, and thus refused to participate in the study. Of those who began the intervention (a current total of 91 patients), 48.4% have attended all six in-clinic visits with the behavioral health specialist in the scheduled twelve-week time frame. 25.3% did not complete all six sessions by the due date but continued in the collaborative care program with follow-up phone calls. Another 18.7% discontinued after beginning the visits with the behavioral health specialist, and 7.7% did not attend any sessions. In other words, by far the majority (73.7%) who initiated treatment received the cognitive behavioral therapy either in person or in combination with phone contact.

4. Summary

In summary, panic disorder is a prevalent and costly disorder in the primary care setting, yet one that is inadequately treated. We have extended efficacy research principles to develop a feasible intervention for primary care patients. Our intervention combines cognitive-behavioral therapy and psychopharmacology and is conducted in a collaborative model in the primary care setting, involving a behavioral health specialist, psychiatrist, and primary care physician. In addition, patient education materials are incorporated. The nature of the primary care setting and patient population warrants certain modifications from research-based or specialty mental health versions of these treatments. Consequently, the intervention is condensed and combined with follow-up care by phone contact, is provided by a nonspecialized "therapists" with modest training, attends to cultural diversity, and is flexible with respect to management of comorbid conditions and patient schedules. To date, physician and patient acceptability are very high, drop out rate is low, and by the majority of patients receive

the intended collaborative care intervention. Later reports will describe the effectiveness and cost of this intervention. We expect that this type of model will be feasible and acceptable in other primary care settings.

One potential barrier to delivery of this model in a primary care setting include the training required of behavioral health specialists, and future research will address ways of training nurse practitioners and other primary care staff with limited background in specific psychosocial treatments but with extensive backgrounds in primary care patient samples.

References

[1] Barlow DH, Craske MG, Cerny JA, Klosko JS. Behavioral treatment of panic disorder. Behavior Therapy 1989;20:261–82.

[2] Barlow DH, Gorman JM, Shear MK, Woods SW. Cognitive-behavioral therapy, imipramine, or their combination for panic disorder: A randomized controlled trial. Journal of American Medican Association 2000;28:2529–36.

[3] Clark DM, Salkovskis PM, Hackmann A, Middleton H, Anastasiades P, Gelder M. A comparison of cognitive therapy, applied relaxation, and imipramine in the treatment of panic disorder. British Journal of Psychiatry 1994;164:759–69.

[4] Craske MG, Brown TA, Barlow DH. Behavioral treatment of panic disorder: a two year follow-up. Behavior Therapy 1991;22:289–304.

[5] Boyer, W. Serotonin uptake inhibitors are superior to imipramine and alprazolam in alleviating panic attacks: a meta analysis. International Clinical Psychopharmacology 1995;10:45–9.

[6] Jobson KO, Davidson JR, Lydiard RB, McCann UD, Pollack MH, Rosenbaum JF. Algorithm for the treatment of panic disorder with agoraphobia. Psychopharmacology Bulletin 1995;31:483–5.

[7] Roy-Byrne P, Stein M, Bystritsky A, Katon W. Pharmacotherapy of panic disorder: proposed guidelines for the family physician. Journal of the American Board of Family Practice 1998;11:290–2.

[8] Roy-Byrne P, Sherbourne CD, Craske MG, Stein M, Katon W, Sullivan G, Means A, Bystritsky A. Moving treatment research from clinical trials to the real world: the design of a first-generation effectiveness study for panic disorder. (in submission)

[9] Eaton WW, Dryman A, Weissman MM. Panic, and phobia. In: LN Robin, DA Regier, editors. Psychiatric disorders in America: the epidemiologic catchment area study. New York, Free Press, 1991.

[10] Kessler RC, McGonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S, Wittchen HU, Kendler KS. Lifetime and 12 month prevalence of DSM-III-R psychiatric disorders in the United States. Results from the National Comorbidity Survey. Archives of General Psychiatry 1994;51:8–19.

[11] Leon AC, Portera L, Weissman MM. The social costs of anxiety disorders. British Journal of Psychiatry 1995;27:19–22.

[12] Shear MK, Schulberg HC. Anxiety disorders in primary care, Bull Menninger Clin 1995;59(2 Suppl A):73–85.

[13] Tiemens BG, Ormel J, Simon GE. Occurrence, recognition, and outcome of psychological disorders in primary care. American Journal of Psychiatry 1996;153:636–44.

[14] Katerndahl DA, Realini JP. Where do panic attack sufferers seek care? Journal of Family Practice 1995;40:237–43.

[15] Katon W, Roy-Byrne P. Panic disorder in the medically ill. Journal of Clinical Psychiatry 1989;50:299–302.

[16] US Department of Health, and Human Services. Public health service national center for health statistics, national medical care utilization and expenditure survey, Washington, DC, US Government Printing Office, 1985.

[17] Simon GE. Psychiatric disorder and functional somatic symptoms as predictors of health care use. Psychiatric Medicine 1992;10:49–59.

[18] Klerman GL, Weissman MM, Ouellette R, Johnson J, Greenwald S. Panic attacks in the community. Social morbidity and health care utilization. Journal of American Medical Association 1991;265:742–6.

[19] Fleet R, Dupuis G, Marchand A, Burelle D, Arsenault A, Beitman B. Panic disorder in emergency department chest pain patients: prevalence, comorbidity, suicidal ideation, and physician recognition. American Journal of Medicine 1996;101:371–8.

[20] Perez SEJ, Miranda J, Munoz RF, Ying YW. Depression in medical outpatients: under recognition and misdiagnosis. Archives of Internal Medicine 1990;150:1083–8.

[21] Spitzer RL, Williams JB, Kroenke K, Linzer M, deGruy FV, Hahn SR, Brody D, Johnson JG. Utility of a new procedure for diagnosing mental d disorders in primary care: The PRIME MD 1000 study. Journal of American Medical Association 1994 1994;272:1749–56.

[22] Katon W, Von Korff M, Lin E, Lipscomb P, Russo J, Wagner E, Polk E. Distressed high utilizers of medical care. DSM III R diagnoses and treatment needs. General Hospital Psychiatry 1990;1990:12:355–62.

[23] Meredith L, Sherbourne CD, Jackson C, Camp P, Wells K. Treatment typically provided for comorbid anxiety disorder. Archives of Family Medicine 1997;6:231–7.

[24] Young AS, Klapr, Sherbourne CD. The quality of care for depressive and anxiety disorders in the United States. Archives of General Psychiatry 2001;58:55–61.

[25] Roy-Byrne PP, Stein MB, Russo J, Mercier E, Thomas R, McQuaid J, et al. Panic disorder in the primary care setting: comorbidity, disability, service utilization, and treatment. Journal of Clinical Psychiatry 1999;60:492–9.

[26] Katon W, Von Korff M, Lin E. Collaborative management to achieve treatment guidelines: impact on depression in primary care. Journal of American Medical Association 1995;273:1026–31.

[27] Katon W, Robinson P, Von Korff M, Lin E, Bush T, Ludman E, Simon G, Walker E. A multifaceted intervention to improve treatment of depression in primary care. Archives of General Psychiatry 1996; 53:92–4.

[28] Waikar S, Bystritsky A, Craske MG, Murphy K. Etiological beliefs and treatment choice for panic disorder. Anxiety 1994/95;1:134–7.

[29] Telch MJ, Lucas RA. Combined pharmacological, and psychological treatment of panic disorder: current status, and future directions. In: BE Wolfe, JD Maser, editors. Treatment of panic disorder: a consensus development conference. Washington, DC, American Psychiatric Press, 1994. pp. 177–97.

[30] Cote G, Gauthier J, Laberge B, Cormier H, Plamondon J. Reduced therapist contact in the cognitive-behavioral treatment of panic disorder. Behavior Therapy 1994;25:123–45.

[31] Craske MG, Maidenberg E, Bystritsky A. Brief cognitive-behavioral versus non- directive therapy for panic disorder. Journal of Behaviour Therapy and Experimental Psychiatry 1995;26:113–20.

[32] Gould R, Clum G, Shapiro D. The use of bibliotherapy in the treatment of panic: a preliminary investigation. Behavior Therapy 1993; 24:241–52.

[33] Hackmann A, Clark D, Salkovskis P, Wells A, Gelder M. Making cognitive therapy for panic more efficient: preliminary results with a four-session version of the treatment. Paper presented at the World Congress of Cognitive Therapy, Toronto, Canada, June, 1992.

[34] Lidren D, Watkins P, Gould R, Clum G, Asterino M, Tulloch H. A comparison of bibliotherapy, and group therapy in the treatment of panic disorder. Journal of Consulting and Clinical Psychology 1994; 62:865–9.

[35] Bjork RA. Retrieval practice, and the maintenance of knowledge. In: MM Gruneberg, PE Morris, RN Sykes editors, Practical aspects of memory II, London, Wiley, 1988. pp. 396–401.

[36] Schmidt RA, Bjork RA. New conceptualizations of practice: common principles in three paradigms suggest new concepts for training. Psychological Science 1992;3:207–17.

[37] Barlow DH, Craske MG. Mastery of your anxiety, and panic. (3rd ed.). San Antonio, Graywind, Harcourt Brace, 2000.
[38] Craske MG, Barlow DH. Agoraphobia supplement to mastery of your anxiety, and panic. (3rd ed.). San Antonio, Graywind, Harcourt Brace, 2000.
[39] Winikoff RN, Wilner S, Neisuler R, Barnett GO. Limitations of provider interventions in hypertension quality assurance. American Journal of Public Health 1985;1985:75:43–6.
[40] Weinberger M, Tierney WM, Booher P, Hiner SL. Social support, stress and functional status in patients with osteoarthritis. Social Science and Medicine 1990;30:503–8.
[41] Headrick LA, Speroff T, Pelecanos HI, Cebul RD. Efforts to improve compliance with the National Cholesterol Education Program guidelines. Results of a randomized controlled trial. Archives of Internal Medicine 1992;152:2490–6.
[42] Oxman AD, Thomson MA, Davis DA, Haynes RB. No magic bullets: a systematic review of 102 traits of interventions to improve professional practice. Canadian Medical Association Journal 1995;153: 1423–31.
[43] Liberman M, Reicher B, Maoz B, Shiber A. A profile of patients who do not comply with referrals for psychiatric counseling. Primary Care Psychiatry 1997;3:25–30.
[44] Stein MB, Roy-Byrne PP, McQuaid JR, Laffaye C, Russo J, McCahill ME, et al. Development of a brief diagnostic screen for panic disorder in primary care. Psychosomatic Medicine 1999;61:359–64.
[45] Wittchen HU, Zhao S, Abelson JM, Abelson JL, Kessler RG. Reliability and procedural validity of UM-CIDI DSM-III-R phobic disorders. Psychological Medicine 1996;26:1169–77.
[46] Lopez SR, Grover KP, Holland D, Johnson MJ, Kain CD, Kanel K, et al. Development of culturally sensitive psychotherapists. Professional Psychology: Research and Practice 1989;20:369–76.
[47] Williams KE, Chambless DL. The results of exposure-based treatment in agoraphobia. In: S Friedman, editor. Anxiety disorders in African Americans. New York, Springer, 1994. pp.149–65.
[48] Friedman S, Paradis C. African-American patients with panic disorder, and agoraphobia. Journal of Anxiety Disorders 1991;5:35–4.
[49] Friedman S, Paradis CM, Hatch M. Characteristics of African-American and White patients with panic disorder and agoraphobia. Hospital & Community Psychiatry 1994;45:798–803.
[50] Miranda J. Recruiting and retaining minorities in psychotherapy research. Journal of Consulting and Clinical Psychology 1996;64:848–50.
[51] Sue S, Fujino DC, Hu L, Takeuchi DT, Zane NW. Community mental health services for ethnic minority groups: A test of the cultural responsiveness hypothesis. Journal of Consulting and Clinical Psychology 1991;59:533–40.
[52] Goisman RM, Warshaw MG, Peterson LG. Panic, agoraphobia, and panic disorder with agoraphobia: data from a multicenter anxiety disorders study. Journal of Nervous and Mental Disorders 1994;182: 72–9.
[53] Sanderson WC, DinNardo PA, Rapee RM, Barlow DH. Syndrome comorbidity in patients diagnosed with a DSM-III –R anxiety disorder. Journal of Abnormal Psychology 1990;99:308–12.
[54] Schulte D, Kunzel R, Pepping G, Schulte-Bahrenberg T. Tailor-made versus standardized therapy of phobic patients. Advances in Behavior Research and Therapy 1992;14:67–92.
[55] Wasson J, Gaudette C, Whaley F, Sauvigne A, Baribeau P, Welch HG. Telephone care as a substitute for routine clinic follow-up. Journal of American Medical Association 1992;267:1788–93.
[56] Mermelstein HT, Holland JC. Psychotherapy by telephone: a therapeutic tool for cancer patients. Psychosomatics 1991;32:407–12.