Managing panic disorder in general practice

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BACKGROUND Panic disorder (PD) is common in the community and contributes to significant distress and decreased quality of life for people who suffer from it. Most people with PD will present in the first instance to their general practitioner or hospital emergency department for assistance, often with a focus on somatic symptoms and concerns.

OBJECTIVE This article aims to assist the GP to manage this group of patients by providing an outline of aetiology, approaches to assessment, and common management strategies.

DISCUSSION Although GPs have an important role to play in ruling out any causal organic basis for panic symptoms, the diagnosis of PD can usually be made as a positive diagnosis on the basis of careful history taking. Thorough and empathic education is a vital step in management. The prognosis for PD can be improved by lifestyle changes, specific psychological techniques, and the judicious use of pharmacotherapy.

The incidence of mental health problems in Australian society is high, especially that of anxiety and mood disorders. A recent population survey into the mental health of Australians found that 9.7% of adults reported symptoms in any 12 month period that met criteria for a diagnosis of one or more anxiety disorder.[1] The 12 month prevalence rate is close to the lifetime prevalence rate of these disorders (10.2%), indicating a high degree of chronicity.[1] Seventy-two percent of these people did not access professional mental health assistance. Of those that did, many initially consulted their general practitioner.

Panic disorder (PD) is one of the most common of the anxiety disorders, affecting approximately 2.4% of the population during any 12 month period.[2] Patients with PD often present to their GP seeking an organic explanation for their symptoms. The DSM-IV diagnostic criteria for PD are detailed in *Table 1*.[3]

Comorbidity/complications

Panic disorder is associated with an increased risk of psychiatric morbidity (particularly major depression).[4] One-third to half of patients are depressed at initial presentation,[5] and many also suffer from post-traumatic stress disorder (PTSD) and social phobia. Panic disorder is also associated with chronic medical conditions[6] (including mitral valve prolapse, migraine, and labile hypertension), overuse of medical services,[7,8] suicide attempts,[9] financial dependency, marital problems, alcohol and substance abuse,[10,11] and impaired vocational and social functioning.[4,11,12] Additionally, PD can coexist with independent physical disorders that may complicate the clinical picture, especially where these disorders impact on cardiac or respiratory function.

Aetiology

Panic disorder appears to have both genetic (and/or familial) and psychological contributions to its development. A review and meta-analysis of the genetic epidemiology of PD[13] found that both twin and family studies suggested a strong familial component, with the risk of PD among first degree relatives of PD sufferers being about 10% (compared to 2.1% in comparison relatives). Furthermore, twin studies reveal consistent findings attributing 30–40% of variance in PD liability to genetics, with the remaining variance coming from individual specific environmental factors.

Other research suggests that psychological variables influence the emergence of panic. Cognitive models of panic[14] propose that panic attacks are the end result of a positive feedback loop whereby physical sensations are responded to with overwhelming anxiety, which thereby exacerbates the original symptoms and consequently the degree of anxious arousal, culminating ultimately in a panic attack (*Figure 1*). In particular, the development of PD is presumed to be the result of the person believing that symptoms of anxious arousal herald the imminent occurrence of a psychological or medical emergency.

A personality variable known as 'anxiety sensitivity'[15] has been consistently found to be associated with this type of cognitive bias, and with PD.[16,17] It refers to a belief that symptoms of anxiety are in some way dangerous or likely to lead to something 'bad' happening. This personality variable appears to be independent of panic experience (ie. one does not need to have experienced a panic attack to have high anxiety sensitivity). People with high anxiety sensitivity are typically hypervigilant for variations and extremes in bodily functions/sensations, and have unrealistic expectations for the stability of those functions/sensations.

Behavioural perspectives[18] state that individuals with PD have a genetically based biological vulnerability (ie. 'hard wired' to respond to the stress of negative life events with exaggerated neurobiological activity). This neurobiological over-reaction or false alarm occurs because such individuals perceive life stressors as if they were truly dangerous or life threatening. In some of these individuals, the initial false alarm becomes associated with the somatic sensations that accompany feelings of anxiety (eg. dizziness, palpitations).

Although the cognitive and behavioural perspectives differ, both acknowledge the key role played by overanxious responding (both cognitively and behaviourally) to somatic stimuli. Much of the focus of cognitive behavioural therapy (CBT) is on analysing and correcting this response, through a process known as cognitive restructuring (*Table 2*) and graded exposure (*Table 3*).

Table 1. Key definitions[3]

Panic attack: A discrete period of intense fear or discomfort, in which four or more of the following symptoms developed abruptly and reached a peak within 10 minutes:

- palpitations, pounding heart, or accelerated heart rate
- sweating
- trembling or shaking
- sensation of shortness of breath or smothering
- feeling of choking
- chest pain or discomfort
- nausea or abdominal distress
- feeling dizzy, unsteady, light headed, or faint
- derealisation (feelings of unreality) or depersonalisation (being detached from oneself)
- fear of losing control or going crazy
- fear of dying
- parasthesis (numbness or tingling sensations)
- chills or hot flushes

Panic disorder: The presence or recurrent, unexpected panic attacks followed by at least 1 month of persistent concern about having another panic attack, worry about the possible implications or consequences of the attacks, or a significant behavioural change related to the attacks

Agoraphobia: Anxiety about being in places or situations from which escape might be difficult or in which help may not be available in the event of having a panic attack or panic-like symptoms. The anxiety typically leads to a pervasive avoidance of a range of situations that may include being alone outside the home or being home alone, being in a crowd of people, travelling in a car, bus or airplane or being on a bridge or in an elevator

The role of the GP

The GP's role is determined by the nature of the presentation, but will usually involve detailed assessment, in particular relating to possible organic causes for the patient's symptoms. Additionally, the GP has an important role to play in educating the patient about the nature of panic and determining a management plan which may include lifestyle changes, psychological interventions, pharmacotherapy and/or referral to a psychiatrist or allied health provider.

Assessment

The assessment of panic by the GP requires a high

level of skill and sensitivity. On the one hand, the GP assumes prime responsibility for thoroughly investigating possible organic causes for panic symptoms, and on the other, the GP is trying to reassure patients who may have a high level of concern that they have a life threatening condition. Additionally, patients have varying degrees of acceptance of psychological diagnoses. The assessment of panic therefore requires the GP to put into practice sophisticated clinical and communication skills.

Assessment should include a full biopsychosocial evaluation, even if this requires a number of consultations, so as to:

- arrive at a psychological formulation of the problem (why is this patient ill with this symptom at this time?), and
- detect common comorbidities such as depression, other anxiety disorders and substance dependence/abuse.

Key questions should explore the nature and frequency of the panic attacks, whether they are cued or spontaneous and whether agoraphobia has developed (*Table 4*).

Structured assessment instruments such as the Panic Disorder Severity Scale,[19] Mobility Inventory,[20] Body Sensations Questionnaire,[21] and a patient 'panic diary' to record time and frequency of attacks, severity, and situational contexts can be useful. Such tools assist both patient and doctor to better understand the nature and specifics of the disorder.

Physical examination and investigation will be guided by the clinical presentation (*Table 5*). The threshold for investigating patients should be lowered where:

- the clinical presentation is atypical
- there is a sudden onset with no previous psychiatric history
- first presentation at age over 45 years, and
- episodes which result in actual, rather than feared, collapse and/or loss of consciousness.

Chest pain is common during a panic attack, although if it is ischaemic in character, it should be investigated appropriately, as PD has been associated with coronary spasm and may exacerbate pre-existing ischaemic heart disease.[23]

Management

Psycho-education

General practitioners are skilled at explaining illness to patients in a manner that takes into account their cultural and health beliefs. Clear explanation of PD is a key step of management. A number of educational resources are available (see *Resources*). Often presenting patients with a diagram of the panic cycle (*Figure 1*) assists them to understand and accept their diagnosis.

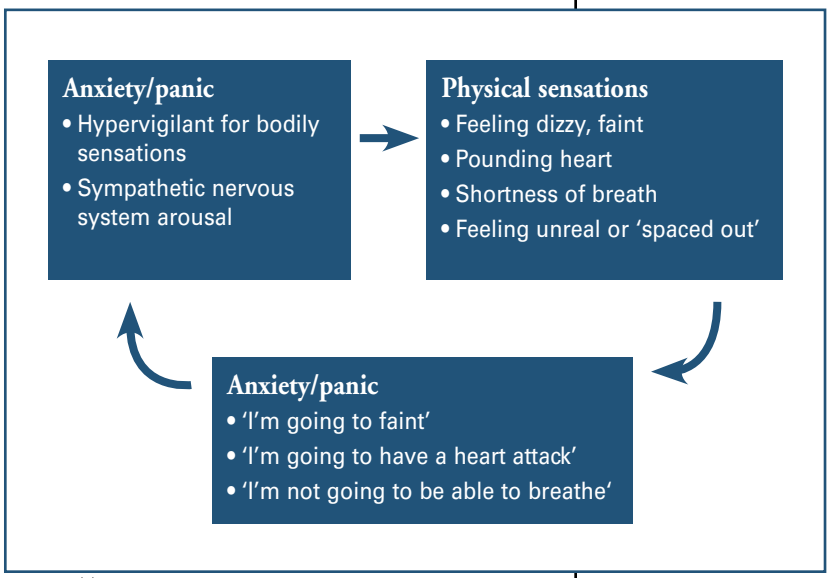

Figure 1. The panic cycle

Lifestyle changes

A number of lifestyle/behavioural changes have been shown to assist patients with PD. The use of stimulants such as caffeine should be avoided, as should excessive use of any substance or medication likely to complicate recovery. Regular moderate exercise has been shown to reduce negative affect in the short term, although some patients may find the resultant physical arousal anxiety provoking. It is important to manage life stresses appropriately rather than avoid anxiety provoking stimuli or situations, as avoidance increases the chronicity of the condition.

Psychological interventions

Cognitive behavioural therapy

Clinical trials have shown that multi-element treatment protocols for panic disorder, based on CBT principles, enable 75–95% of patients to be panic free following treatment, and that those improvements are maintained for at least 2 years.[24–26] Significantly, the efficacy of this program does not appear to be compromised when patients have comorbid depression,[29] nor when it is transferred from controlled research settings to the 'real world' clinic setting.[30]

Cognitive behavioural therapy is better tolerated, has lower drop out rates, superior symptom control and reduced relapse rates compared to pharmacological treatments, including benzodiazepines (BZDs) and

antidepressants such as imipramine.[31–34]

A recent review on panic treatments[35] stated that, although combination treatments (ie. CBT, medications) might appear more efficacious in the short term, in the long term, CBT alone was more effective than combination treatments or medication alone.

The major limitation of CBT as a treatment has been its limited availability. Not all psychologists and psychiatrists offer CBT, and specialists may not be available to patients due to location or cost. Few GPs currently use CBT in their practices, but there are educational and financial structures available for GPs to use focussed psychological strategies (FPS) (or refer to allied health providers to provide FPS) under the Better Outcomes in Mental Health Initiative (see *Resources*). Focussed psychological strategies – utilising breathing/relaxation exercises, cognitive restructuring and graded exposure[36] – are key elements of CBT programs and can be delivered within the general practice setting.

Focussed psychological strategies in PD

Breathing/relaxation exercises

Simple slow breathing or graded muscle relaxation techniques can greatly assist patients, particularly those who are chronic overbreathers and/or suffer from significant discomfort due to muscle tension. These techniques are relatively easy to teach patients (assisted by the use of handouts) and can (and should) be practised by the patient between GP consultations.[37]

Cognitive restructuring

Cognitive restructuring involves working collaboratively with the patient to identify unhelpful and inaccurate cognitions (eg. 'I'm about to die') and ultimately to replace those with more realistic/accurate ones through a process of reasoned debate and basic evidence gathering. Commonly, worksheets are used to help record, monitor and address panic related cognition (*Table 2*).

Graded exposure

Graded exposure refers to (re)introducing the patient to feared stimuli in order that they may begin testing and evaluating their anxiety control skills when faced with anxiety triggering stimuli. With PD, the feared stimuli are typically bodily sensations associated with panic (eg. racing heart, shortness of breath, sweating). These sensations may be produced in a safe setting and aim

Table 2. Example worksheet for cognitive restructuring

Situation (Describe the panic arousing situation)	*Waiting at the supermarket checkout*	
Feelings (How did you feel in this situation?)	*Anxious, panicky, scared*	
Thoughts	What were you thinking in this situation?	Rebuttal (What evidence is there 'against' this thought?)
'Automatic' thoughts ↓	*I'm going to do something crazy*	*I haven't done anything crazy before despite having dozens of panic attacks*
Deeper thoughts ↓	*I'm going to have to leap over the counter to get out*	*I've always managed to either see the anxiety through or leave normally*
	If I don't get out I will 'lose it'	*I haven't ever 'lost it' before, and even if I have a panic attack, it will eventually go away*
Core belief	*I am losing my mind*	*My GP tells me there is no evidence that having panic attacks leads to insanity and I haven't gone mad yet!*

Table 3. Example of a 'hierarchy of fear' as used to guide graded exposure to anxiety provoking stimuli

1. Waiting at the supermarket checkout	High anxiety
2. Walking through the supermarket aisles	
3. Entering the supermarket	
4. Parking in the supermarket car park	
5. Driving to the supermarket	
6. Getting in the car to go to the supermarket	
7. Writing up a shopping list	Low anxiety

Table 4. Useful questions for use as part of assessment for panic disorder

- Describe a typical anxiety/panic episode?
- How often do the panic attacks occur?
- Does the panic occur spontaneously or in reaction to some place, person or event?
- What were your thoughts during the panic attack?
- Are you avoiding any places or situations for fear of having a panic attack?

to 'decondition' the patient to anxious responding.

The process involves exposing the patient to progressively more challenging types and degrees of panic invoking stimuli as are relevant to each particular patient. For example, for the patient who particularly fears a racing heart, graded exposure might utilise gentle exercise as the means to exposing that patient to such sensations, with increasingly active exercise prescribed as the patient is able to tolerate preceding levels. Alternatively, for the patient who fears dizziness, a short hyperventilation exercise can be used to produce the feared sensations. The patient not only learns more about their responding through these exercises, but is also conditioning him/herself to respond in a nonanxious way to the feared sensations.

The worksheet shown in *Table 3* is an example of a patient's 'hierarchy of fear' whereby anxiety triggers are external or situational (in contrast to internal or physical triggers). This patient would typically benefit from exposure to the stimuli listed in this hierarchy sequentially from least feared to most feared, with progression to the next level only pursued following successful anxiety control at the previous step. This type of process is obviously pursued by the patient between consultation times, with the GP taking on a coaching and monitoring role.

Pharmacological management

The institution of pharmacological treatment for patients with panic disorder requires sensitivity and patience. There needs to be plenty of time provided to discuss the medications and their side effects and support given in making the decision to take medication. Being already focussed on their physical status, starting a medication can often increase this awareness and even minor side effects can be interpreted catastrophically leading to premature cessation of treatment.

Giving away control to another individual by taking a medication is often extremely challenging for patients with PD. Engaging patients in the decisions regarding their treatment by providing patient education is important (see *Resources*). By encouraging the patient to return to discuss their overall treatment plan, including medication, at their next visit after reviewing the information engages the patient as an informed consumer and aids compliance. For many people with PD there is a reluctance to take antidepressants. A caring, careful approach with psycho-education and a low starting dose can lead to excellent outcomes for people who are often quite severely disabled from their illness.

SSRIs

First line medications for treatment of PD are the selective serotonin reuptake inhibitors (SSRIs).[38] Evidence as to whether SSRIs are any better than tricyclic antidepressants (TCAs), BZDs, or monoamine oxidase inhibitors (MAOIs) is unclear, and so it is best to assume that medications from these four classes are about equal in efficacy.[39] However, SSRIs have higher compliance and fewer adverse effects than other drugs available and therefore are the treatment of first choice.[40]

There is good evidence for the efficacy of fluvoxamine (100–300 mg/day), fluoxetine (20–40 mg/day), paroxetine (40 mg/day) citalopram (20–40 mg/day) and sertraline (50–200 mg/day).[40] Doses required to treat PD are generally higher than those required for depression.

Major side effects of SSRIs are nausea, diarrhoea, tremor, increased sweating, insomnia or drowsiness (commonly described as slowness or fuzziness of thinking) and sexual dysfunction. Some people experience an increase in anxiety initially with SSRIs. This is often a combination of a side effect of the medication and the underlying anxiety/hypervigilance of the patient themself. At the commencement of treatment, the frequency, severity and nature of panic attacks may change, and warning the patient of this can alleviate anxiety. Consequently, it is advisable to start all patients with PD at a low dose (commonly

half the normal starting dose) and to go slow, gradually increasing to a therapeutic dose according to the patient's tolerance. Most patients will be taking a therapeutic dose within 10–20 days.

Antidepressants can take longer to take effect in patients with PD than for depression (typically 4–6 weeks). If a patient has failed to respond to treatment at maximum tolerated dose for 8–12 weeks, then change to another SSRI or TCA, or add CBT, and consider referral to a psychiatrist. The SSRIs can also have significant withdrawal effects (especially anxiety) if they are ceased suddenly, and patients should be cautioned regarding this.[41,42]

Other antidepressants

The tricyclic antidepressants are effective, but there are high drop out rates due to side effects. Imipramine at a dose of 100–225 mg/day is effective. The MAOIs are also effective, but should be reserved for treatment resistant cases due to side effects and the need for a tyramine free diet. There is insufficient evidence available on the efficacy of venlafaxine or moclobemide in PD.[40] Buspirone and beta blockers have not been shown to be of use.[43]

Interestingly, in view of how common CBT/medication combination therapy is, there is insufficient evidence regarding combination therapy of CBT with SSRIs, TCAs or MAOIs.[40] Pharmacotherapy should be the first line of treatment in more severe cases, especially where there is comorbid major depression or PTSD.[22]

Benzodiazepines

There remains significant controversy about the use of BZDs in the treatment of PD. Benzodiazepines are moderately effective and are better tolerated than the older antidepressants. There is however a high rate of relapse upon cessation. The risks with the BZDs are well known, including iatrogenic dependence, drowsiness and impairment of concentration and motor performance. They have been found to interfere with the efficacy of CBT at both 3 and 24 months follow up.[44] Clinically, it is best to avoid using short acting BZDs such as alprazolam as they need to be taken three times per day to avoid withdrawal phenomena – and this is not practical for most patients. Withdrawal from short acting BZDs has also been shown to be more difficult.[40] Benzodiazepines are of particular use in two situations:

- where a person has such severe illness they are at risk of losing their job, or unable to leave the house to come to an appointment or go to hospital without some temporary relief.[39] The risk here is that patients may attribute all the benefits to the BZD and not to therapies such as SSRIs or CBT. Withdrawal may be difficult even after short term use, and the BZD may interfere with the efficacy of CBT by decreasing motivation to complete the CBT program,[45] and
- in chronic treatment resistant PD as an augmenting agent where there has only been a partial response to antidepressants and CBT. In this situation, as long as there is no history of drug dependence or severe personality disorder, patients can be maintained long term with good clinical effect. There is no evidence for dependence or significant escalation in doses of BZDs being required to maintain a clinical response in patients with panic disorder.[39,46]

In the majority of patients, once the nature of the illness and the treatment approach is explained, they are generally content not to take BZDs and wait for the onset of effect of either the antidepressants and/or CBT. Commonly, patients are already on a BZD when seen initially, and a slow withdrawal of the BZD (over 2–4 months depending on dose) while instituting other treatment is appropriate.

Patients also use BZDs as a 'safety' behaviour. It is not uncommon for patients to find it reassuring to have a tablet of alprazolam or diazepam in their

Table 5. Examinations and investigations for patients with suspected PD

Examinations	
General appearance	Signs of anxiety, anaemia, or evidence of substance abuse
Vital signs	Pulse irregularities, fever, blood pressure, tachypnoea
Cardiovascular	Arrhythmias, ischaemic heart disease, cardiac failure, valvular disease
Respiratory	Local or generalised lung disease
Thyroid	Thyroid examination including signs of hyperthyroidism or thyroid eye disease
Neurological	Focal neurological signs

Investigations

- full blood examination
- urea, electrolytes and creatine
- liver function tests
- fasting glucose
- thyroid function tests
- with discretion: electrocardiogram (especially in those with chest pain as a prominent symptom), chest X-ray, echocardiogram, CT brain, electroencophelogram, Holter monitor, urine catecholamines, drug screen

pocket or purse just in case they suffer a panic attack when away from home or alone. Many, who otherwise have recovered from their PD and agoraphobia, will still be carrying a tablet 'just in case'. They are often reluctant to admit this unless asked directly, and should be supported to venture through life without their reassuring 'friend'.

The evidence is unclear as to how long medications should be continued. In general, continue antidepressants for 12 months and then slowly withdraw over at least 1 month. Antidepressants should be continued until the patient has been panic free for at least 6 months and avoidance behaviour extinguished. They should not be ceased when significant intercurrent psychosocial stressors are present. If BZDs have been used, continue treatment until the patient has been panic free for 6 months then withdraw slowly over 3–6 months.[47,48]

Conclusion

Panic disorder is a common psychological condition distinguished by recurrent, unexpected panic attacks that cause significant distress and impairment for the patient. Both genetic/familial and individual specific environmental factors, as well as cognitive and behavioural characteristics, appear to play a role in its aetiology. General practitioners are typically at the 'front line' for the identification and management of PD, and fortunately effective treatments are available including lifestyle changes, psychological strategies and pharmacotherapy. Key steps in patient management include: thorough assessment for possible organic causes; patient education; and developing a management plan in light of patient preferences and needs, available resources both within the general practice setting, and externally through specialist mental health support.

Summary of important points

- GPs are commonly the first contact for patients seeking assistance with panic symptomatology.
- Panic disorder is a positive diagnosis rather than a diagnosis of exclusion.
- Management of PD involves careful and empathic education, lifestyle changes, specific psychological techniques, the judicious use of pharmacotherapy, and ongoing monitoring and review.
- CBT is the treatment of choice, and first line medication are the SSRIs.

Resources

- Aisbett B. Living with it: a survivors guide to panic attacks. Australia: Harper Collins. Perennially popular, simple, easy to read overview of panic disorder written by an ex-sufferer using illustrations and cartoons to help explain 'it' (PD)
- Barlow DM, Craske MG. Mastery of your anxiety and panic. 3rd ed. New York: Graywind, 2000. A comprehensive multi-element CBT treatment manual/workbook for therapists and patients
- Monash University. Panic information and treatment resource: 'Panic online': www.med.monash.edu.au/non-cms/mentalhealth/paniconline/ A useful and free source of quality psycho-educational material about PD
- The Royal Australian and New Zealand College of Psychiatrists. Clinical practice guidelines: www.ranzcp.org/publicarea/cpg.asp#cc Free, quality source of information for clinicians and consumers/carers
- Anxiety Disorders Association of Victoria: www.adavic.org/ Useful information regarding PD as well as links to other resources
- Information on the Better Outcomes in Mental Health Initiative: www.racgp.org.au/mentalhealth

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David Barton has been funded by various drug companies to undertake clinical research, and present lectures, and has attended conferences with drug company support. This includes a number of companies that produce SSRIs.

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References

1. Henderson S, Andrews G, Hall W. Australia's mental health: an overview of the general population survey. Aust NZ J Psychiatry 2000;34:197–205.
2. Andrews G, Hall W, Teeson M, Henderson S. The mental health of Australians. Mental Health Branch, The Australian Commonwealth Department of Health and Aged Care, 1999.
3. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-IV. 4th ed. Washington DC: American Psychiatric Publishing, 1994.
4. Weissman MM, Klerman GL, Markowitz JS, Ouellette R. Suicidal ideation and suicide attempts in panic disorder and attacks. N Engl J Med 1989;321:1209–14.
5. Katon W, Vitaliano PP, Russo J, Cormier L, Anderson K, Jones M. Panic disorder: epidemiology in primary care. J Fam Pract 1986;23:233–9.
6. Schmidt NB, Telch MJ. Nonpsychiatric medical comorbidity, health perceptions, and treatment outcome in patients with panic disorder. Health Psychol 1997;16:114–22.

7. Boyd JH. Use of mental health services for the treatment of panic disorder. Am J Psychiatry 1986;143:1569–74.
8. Rees CS, Richards JC, Smith LM. Medical utilisation and costs in panic disorder: a comparison with social phobia. J Anxiety Disord 1998;12:421–35.
9. Woodruff-Borden J, Stanley MA, Lister SC, Tabacchi MR. Nonclinical panic and suicidality: prevalence and psychopathology. Behav Res Ther 1997;35:109–16.
10. Kaplan HS. Sexual aversions, phobias and panic. New York: Bruner-Mazel, 1987.
11. Markowitz JS, Weissman MM, Ouellette R, Lish JD, Klerman GL. Quality of life in panic disorder. Arch Gen Psychiatry 1989;46:984–92.
12. Klerman GL, Weissman MM, Ouellette R, Johnson J, Greenwald S. Panic attacks in the community: Social morbidity and health care utilisation. J Am Med Assoc 1991;265:742–6.
13. Weissman MM. Family genetic studies of panic disorder. J Psychiatr Res 1993;27:69–78.
14. Clark DM. A cognitive approach to panic. Behav Res Ther 1986;24:461–70.
15. Reiss S. Expectancy theory of fear, anxiety, and panic. Clin Psychol Rev 1991;11:141–53.
16. Schmidt NB, Lerew DR, Jackson RJ. The role of anxiety sensitivity in the pathogenesis of panic: Prospective evaluation of spontaneous panic attacks during acute stress. J Abnorm Psychol 1997;106:355–64.
17. Richards JC, Austin DA, Alvarenga ME. Interpretation of ambiguous stimuli in panic disorder and non-clinical panic. Cognit Ther Res 2001;25:235–46.
18. Barlow DH. Anxiety and its disorders: the nature and treatment of anxiety and panic. New York: Guilford, 1988.
19. Shear MK, Brown TA, Barlow DH. Multicenter collaborative panic disorder severity scale. Am J Psychiatry 1997;154:1571–5.
20. Chambless DL, Caputo GC, Jasin SE, Gracely EJ, Williams C. The mobility inventory for agoraphobia. Behav Res Ther 1985;23:35–44.
21. Chambless DL, Caputo GC, Bright P, Gallagher R. The body sensations questionnaire and the agoraphobic cognitions questionnaire. J Consult Clin Psychol 1984;52:1090–7.
22. Ciechanowski P, Katon W. Overview of panic disorder. Available at: www.uptodate.com. Accessed March 2004.
23. Mansour VM, Wilkinson DJC, Jennings GL, Schwarz RG, Thompson JM, Esler MD. Panic disorder: coronary spasm as a basis for cardiac risk? Med J Aust 1998;168:390–2.
24. Brown TA, Barlow DH. Long term outcome in cognitive behavioural treatment of panic disorder: clinical predictors and alternative strategies for assessment. J Consult Clin Psychol 1995;63:754–65.
25. Craske MG, Brown TA, Barlow DH. Behavioral treatment of panic disorder: a two year follow up. Behav Ther 1991;22:289–304.
26. Margraf J, Barlow DH, Clark DM, Telch MJ. Psychological treatment of panic: work in progress on outcome, active ingredients, and follow up. Behav Res Ther 1993;31:1–8.
27. National Institute of Mental Health. Treatment of panic disorder. NIH Consensus development conference consensus statement (Vol 9), 1991.
28. American Psychological Association, Division of Clinical Psychology (division 12). Task force report on promotion and dissemination of psychological procedures. Final report. Washington DC, 1993.
29. McLean PD, Woody S, Taylor S, Koch W. Comorbid panic disorder and major depression. J Consult Clin Psychol 1998;66:240–7.
30. Wade WA, Treat TA, Stuart GL. Transporting an empirically supported treatment for panic disorder to a service clinic: a benchmarking strategy. J Consult Clin Psychol 1998;66:231–9.
31. Klosko JS, Barlow D, Tassinari R, Cerny JA. A comparison of alprazolam and behavior therapy in the treatment of panic disorder. J Consult Clin Psychol 1990;58:77–84.
32. Clum GA. Psychological interventions versus drug in the treatment of panic. Behav Ther 1989;20:429–57.
33. Clum GA, Clum GA, Surls R. A meta-analysis of treatments for panic disorder. J Consult Clin Psychol 1993;61:317–26.
34. Gould RA, Otto MW, Pollack MH. A meta-analysis of treatment outcome in panic disorder. Clin Psychol Rev 1995;15:819–44.
35. Schmidt NB. Panic disorder: cognitive behavioural treatment and pharmacological treatment strategies. J Clin Psychol Med Settings 1999;6:89–109.
36. Blashki G, Hickie IB, Davenport TA. Providing psychological treatments in general practice: how will it work? Med J Aust 2003;179:23–5.
37. Blashki G, Morgan H, Sumich H, Hickie IB, Scott EM, Davenport TA. Behavioural modification strategies for general medical practice. Aust Fam Physician 2003;32:715–21.
38. Boyer W. Serotonin uptake inhibitors are superior to imipramine and alprazolam in alleviating panic attacks: a meta-analysis. Int Clin Psychopharmacol 1995;10:45–9.
39. American Psychiatric Association. Practice guidelines for the treatment of patients with panic disorder. In: Practice guidelines for the treatment of psychiatric disorders compendium. Washington DC: APA 2002;642.
40. Royal Australian and New Zealand College of Psychiatrists Clinical Practice Guidelines Team for Panic Disorder and Agoraphobia. Australian and New Zealand clinical practice guidelines for the treatment of panic disorder and agoraphobia. Aust NZ J Psychiatry 2003;37:641–56.
41. Lejoyeux M, Ades J. Antidepressant discontinuation: a review of the literature. J Clin Psychiatry 1997;58(Suppl):11–5.
42. Tamam L, Ozpoyraz N. Selective serotonin reuptake inhibitor discontinuation syndrome: a review. Adv Ther 2002;19:17–26.
43. Sheehan DV, Raj AB, Sheehan KH, Soto S. Is buspirone effective for panic disorder? J Clin Psychopharmacol 1990;10:3–11.
44. Brown TA, Barlow DH. Long term outcome in cognitive behavioural treatment of panic disorder: clinical predictors and alternative strategies for assessment. J Consult Clin Psychol 1995;63:754–65.
45. Sheehan DV, The management of panic disorder. J Clin Psychiatry 2002;63(Suppl)14:17–21.
46. Nagey LM, Krytal JH, Woods SW. Clinical and medication outcome after short term alprazolam and behavioral group treatment of panic disorder: 2.5 year naturalistic follow up. Arch Gen Psych 1989;46:993–9.
47. Pecknold JC , Winson RP. Taper withdrawal studies with alprazolam inpatients with panic disorder and agoraphobia. Psychopharmacol Bull 1986;22:173–6.
48. Ballenger JC, Pecknold J, Rickels K, Sellers EM. Medication discontinuation in panic disorders. J Clin Psychiatry 1993;54(Suppl):15–21.

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