

Cognitive behaviour therapy for psychosomatic disorders

Guidelines for the family physician in the use of CBT for psychosomatic disorders.



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Rob Bothwell trained initially at the University of the Witwatersrand and did his postgraduate training in psychiatry at the University of Newcastle upon Tyne. It was there that he developed an interest in cognitive behavioural therapy. He now runs a training clinic to introduce psychiatry registrars and psychology interns to the theory and practice of CBT. His clinical interest is the provision of combined psychological and medical treatments to patients with complex mood and anxiety disorders. More recently he has developed an interest in somatoform disorders and chronic fatigue.

The range of conditions for which cognitive behaviour therapy (CBT) has proved to be an effective intervention continues to expand. In recent years cognitive behavioural interventions have increasingly been used in medical settings. CBT is an effective treatment for disorders such as hypochondriasis,¹ chronic fatigue and atypical chest pain.²⁻⁴ There is also a growing trend to use CBT-based strategies to assist patients with chronic medical problems such as cancer, diabetes and chronic pain.⁵

Simpler protocols and self-help packages are being developed to make it easier to deliver the benefits of CBT to medical patients. In addition, principles and tech-

niques derived from the model are being taught to a wide range of professional groups including GPs and nurse practitioners.

This article describes some of the content and strategies used in CBT.

THE BASIC COGNITIVE BEHAVIOURAL MODEL

At the heart of the cognitive model is the proposition that **an individual's reaction to an event is determined not by the event itself but how the event is perceived**.⁶ Put simply, what we think influences how we feel and behave. However, while the cognitive model

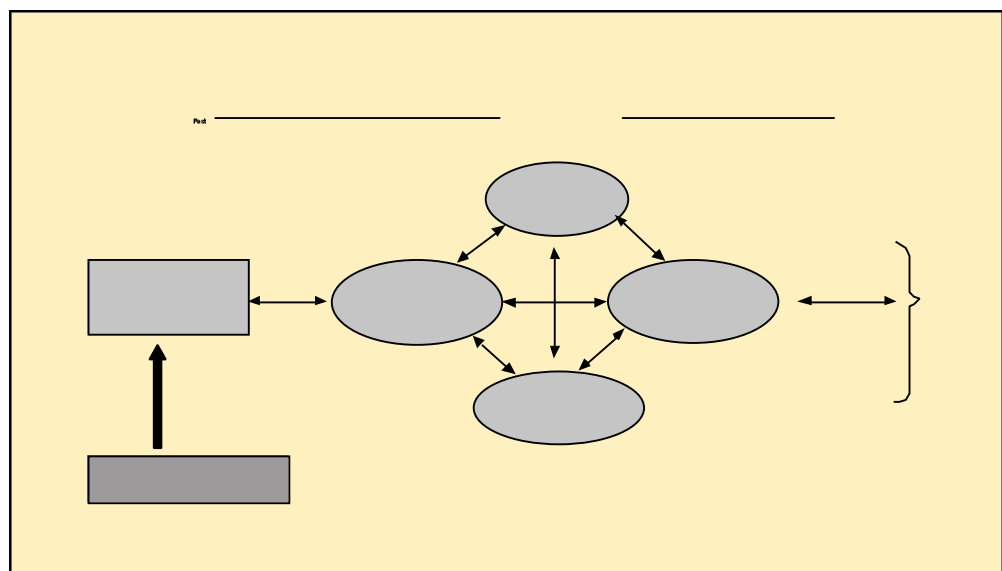


Fig. 1. Basic cognitive behavioural model. (Modified from 5-Factor Model of Padesky & Mooney.⁷ Used with permission.)

attaches a central role to meaning and to cognitive processes, **it is clear that an individual's thoughts are intricately interwoven with their emotions, behaviours and physical sensations as well as their environment** (Fig. 1).⁷ To properly understand an individual's response it is helpful to track these different components sequentially. For example, a doctor feels fatigued in the late afternoon and struggles to concentrate. A new patient, noticing that he appears distracted, stops talking and then says 'you're obviously not interested'. The doctor leaves the interview feeling upset (**emotion**) and has the **thought** 'I'm useless', 'I'm a lousy doctor'. He becomes increasingly aware of his fatigue (**physical**) and has the thought 'I can't cope with this job'. While interviewing his next patient he makes a great effort (**behaviour**) to attend to everything that is said. He notices, however, that the patient seems slightly uncomfortable and he has a further thought 'I really am useless'. Leaving for home that evening he feels tired and depressed.

This example demonstrates how the doctor's **automatic thoughts**, which are about failure and not coping, are influenced and shaped by his physical state and by the reactions of his patients. A change in one domain, initially fatigue, led to a deterioration in all other aspects of the doctor's experience. This 5-Factor Model of Padesky and Mooney⁷ is a useful way of conveying to patients how vicious cycles occur with emotional problems. It is also used to explain how an improvement in one domain can lead to an improvement in all other areas. If the doctor had been less fatigued, or if his patients had reacted differently, he might have returned home feeling

more cheerful. If he had behaved in another way, if his interpersonal style had been slightly different, it is possible his patients would not have reacted to him with criticism and discomfort. Finally, his cognitive response to these brief incidents could have been different. The doctor failed to take account of all the other patients who left satisfied with his care. He committed a number of **logical errors**. He operated a 'mental filter' discounting his successes and 'selectively abstracting' his perceived failures. He 'personalised', in that he took full responsibility for the patient's critical comment, as opposed to wondering why the patient was so quick to take offence. Finally, he 'magnified' a single event to conclude that he was generally a failure.

Why did the doctor select and process facts in such a biased way? We may get a better insight into his spontaneous, moment-to-moment thoughts (automatic thoughts) if

we have an idea of his **underlying beliefs**. Underlying beliefs arise out of our experiences and are also shaped by our family and culture of origin. They **act as a lens through which we organise and structure all aspects of our experience**. In the doctor's case a successful but critical father may have embedded unrelenting standards in him. He developed a core belief 'I must be perfect at all times' and when he became a doctor this self-belief shaped the rule 'I should satisfy the needs of all my patients'. It can be seen that there is a thematic consistency between his core self-beliefs, the rules he set himself and his automatic thoughts. The automatic thoughts, which contributed to his sense of defeat and failure, reflect underlying beliefs. His belief systems (acting like prejudices against the self) were not modified by experience because contradictory evidence was readily discounted by logical errors.

BOX 1

Essential elements of CBT

- Based on the cognitive model of emotional disorders
- Depends on a sound therapeutic alliance
- Scientific
 - use of objective outcome measures
 - hypothesis testing
 - controlled trials
- Structured and problem-focused
 - has a beginning, middle and end
 - each session has an agenda
- Time-limited (6 - 20 sessions)
- Educational
 - share knowledge about model, disorder
 - teach skills including self-therapy, relapse prevention
- A detailed formulation informs the choice of strategy & technique
- **Cognitive strategies include** thought identification and challenging, modifying underlying beliefs, Socratic dialogue, problem solving, providing new information
- **Behavioural techniques include** activity scheduling, relaxation training, graded exposure, role play, behavioural experiments

Collaborative empiricism

ESSENTIAL ELEMENTS OF CBT

The essential features of CBT are listed in Box 1. The crucial first step in CBT, as in any therapeutic endeavour, is the development of a sound **therapeutic relationship**.⁶ The style of CBT is best described by the term **collaborative empiricism**. In this model therapist and patient work together to test hypotheses. The therapist uses a Socratic style of questioning and during therapy draws on a range of cognitive and behavioural techniques. While this may give the impression that CBT is a ‘cook-book therapy’, the skilled therapist is constantly making choices on how to proceed, based on a sophisticated formulation of the patient’s problems.

APPLYING THE CBT TO SOMATIC PROBLEMS

There are a number of reasons why CBT can be effectively adapted for use in medical settings. It is **easily grasped** by both medical professionals and patients. It is based on **scientific principles** and can be evaluated in controlled trials. Collaborative empiricism fits with a medical/scientific model and

there is an implicit encouragement of the patient to take responsibility for self management. In addition, **physical symptoms** are an intrinsic part of the model in a way that does not allow for a simplistic mind-body split. Patients are not being told ‘your problem is not in your body, it’s in your mind’ — rather they are being encouraged to think holistically. Finally, it has to be acknowledged that health-related anxieties cause enormous distress and impairment — whether the anxieties are realistic, exaggerated, or totally unfounded. There is consequently a great need for interventions which address these problems.

A challenge often encountered among patients with functional medical symptoms is a great resistance to the use of psychological therapies. Considerable skill is often required to engage the patient in therapy (See Box 2).

The cognitive approach to managing health-related anxieties is strongly influenced by the cognitive model of anxiety. This model describes a pattern of **cognitive biases** associated with excessive anxiety and identifies several factors which maintain anxiety prob-

lems. These include **attentional shifts and dysfunctional coping behaviour**s.^{2,8}

The cognitive biases that typify anxiety disorders (including health anxiety) include an overestimation

BOX 2

Strategies for engaging the reluctant client

- Empathise with the distress
- Show concern for patient’s discomfort
- State belief that the pain is real
- Enquire about physical symptoms
- Acknowledge the patient’s views
- Encourage the patient to ‘experiment’ with an alternative approach for a discreet time period
- Introduce an emotional component — ‘emotional factors may make this problem hard to cope with’
- Reflect that they have been told what their symptoms are **not** — CBT involves a collaborative effort to find explanations of what their symptoms **are**
- Allow the patient to remain sceptical of alternative explanations until they have sound evidence to support them

Table 1. Symptom-cognition-emotion-behaviour links for common presentations

Symptom	Cognition	Emotion	Physical	Behaviour
Fatigue	Effort will make fatigue worse	Depression Anxiety	Physically unfit	Avoids activity Focus attention
Headache	Tumour, stroke I won’t cope	Anxiety	Muscular tension	Avoidance Focus attention Analgesics
Insomnia	Worries about consequences of insomnia	Anxiety	Arousal	Focus attention on not sleeping Hypnotics
Breathlessness	Suffocate Asthma attack	Anxiety	Hyperventilation	Avoidance Focus attention
Chronic pain	Damage	Depression Helplessness	Physical basis of varying significance	Avoidance ++ Focus attention Seeks reassurance
Atypical chest pain	Heart attack	Anxiety	Hyperventilation Musculoskeletal	Avoids exertion Attention reassurance

of the risk that a feared event will occur, an overestimation of the potential awfulness of that event and an underestimation of one's capacity to cope should the event occur. For example: A 64-year-old man, 3 months after a myocardial infarction, is shopping in a busy supermarket when he notices that he is sweating and is aware of his heart beating fast. He is flooded with automatic thoughts which include 'this is a heart attack', 'I'm going to die', 'I'm trapped ... there is no way I can get help'. He feels intensely anxious, is acutely aware that his heart rate is increasing and experiences a tense feeling around his chest. He has a further thought: 'this really is a heart attack'. He lies on the ground and a shop assistant calls an ambulance.

This description of a panic attack in an individual whose recent experiences have left him particularly vigilant to any sign of a heart problem, reveals several logical errors that are typical of someone with excessive anxiety in relation to health. They include 'jumping to conclusions', 'catastrophising' and 'selective abstraction' (he attends to the symptoms of sweating and tachycardia but ignores the fact that he does not have anginal type chest pain). Typical situation-thought-feeling-behaviour-physical state links for different symptoms are detailed in Table I.

Both cognitive and behavioural factors can play a maintaining role in psychosomatic problems. Deeply embedded **dysfunctional beliefs** often persist, despite information or experiences that contradict the belief. In addition, once an individual has been alerted to health risks, the **attentional shifts** that occur play an important role. After

a heart attack (or a panic attack for that matter) many individuals become aware of physical signs of which they were not previously conscious. Autonomic symptoms of anxiety may be misinterpreted, leading to the process of somatosensory amplification described in the above example of the man experiencing anxiety symptoms.

Once an individual has been alerted to a potential threat he or she will seek ways to cope with the threat. An individual with excessive anxieties about health frequently develops '**safety behaviours**', which can have a potent effect on maintaining the cycle of anxiety. Three common safety behaviours are avoidance, checking and reassurance seeking.

Avoidance of activity is frequently encountered in patients with functional dyspnoea, chest pain, dizziness and chronic fatigue, as well as in patients with chronic pain and headaches. Someone with functional chest pain who avoids activity will reduce their anxiety. This short-term benefit is, however, likely to promote further avoidance. It also prevents new learning taking place. For example, the individual who avoids exercise does not learn that exercise is benign. Finally, dysfunctional thoughts are reinforced. An individual might have the thought 'if I walk up the stairs I could have a heart attack'. The lack of a heart attack is then taken as confirmation that they were right to avoid stressing themselves physically. Avoiding activity not only further embeds the notion that one is an invalid but it inevitably leads to a loss of physical condition. If a task involving effort is then attempted, the fatigue and breathlessness it causes are likely to

be misinterpreted as further evidence of incapacity.

Checking is another common safety behaviour. It has the effect of reinforcing a preoccupation with physical symptoms but, in addition, a rash, lymph node or sore spot which is constantly touched, felt, prodded, poked, stretched or squeezed is likely to begin showing signs of real inflammation and tenderness.

An essential aspect of being a doctor involves relieving distress by providing patients with reassurance when it is possible to do so. With some anxious patients, however, **reassurance seeking** can take on a compulsive quality. Providing reassurance offers immediate relief from anxiety, but in someone who is chronically anxious, reassurance serves to reinforce what can become a problematic behaviour. In addition, the patient who persistently seeks medical opinions to quell his or her anxiety, is more likely to encounter a doctor who does seem concerned or begins a series of investigations. The patient's belief, 'I was right to worry', is then confirmed.

What should one do when a patient expresses painful feelings and emotions? The clinician needs to stay mindful of a number of different issues. Firstly, it is important that emotional distress, even if based on highly dysfunctional assumptions, should be responded to in an empathic manner. Engaging a patient presenting with functional somatic symptoms in therapy is often difficult, but if we show that we have understood and shared his or her feelings, our chances of building a sound therapeutic alliance are enhanced. In addition distress is often an appropriate expression of a patient's cir-

MAIN TOPIC

cumstances. Emotional responses, particularly when an individual displays a **sudden shift in mood**, can alert the clinician to the intrusion of an automatic thought or image which might be usefully explored. For example, a woman, while receiving the diagnosis that she is hypertensive, suddenly appears tense and preoccupied. Rather than continuing to offer information in the hope that her anxieties will be allayed, it might be more appropriate to acknowledge her reaction and to explore what thoughts or images are evoked by the word 'hypertension'. Her beliefs could also be explored by asking what she has heard about hypertension. Inquiring whether she knows or knew anyone who had hypertension might uncover underlying fears about the implications of having the condition.

Finally one should always consider the possibility that a **mood disorder** could be present in a patient with psychosomatic symptoms — patients with mood disorders often present initially with somatic symptoms.

Exploring **interpersonal factors** such as the behaviour of family members and their response to the individual's complaints is often illuminating. The overly solicitous spouse who limits his or her partner's activities due to the fear that they are ill, or a mother who shows care and concern only when her child is ill, have a major impact in shaping illness behaviour.

CASE STUDY: CBT IN A PATIENT WITH HYPOCHONDRIASIS

Mr Q is a 29-year-old single man who was referred for CBT by his GP. He had a 2-year history of frequent presentations to medical professionals, complaining of back

pain and more recently of palpitations and headaches. He reported struggling to cope with the death of his mother 4 years previously. Two years previously he had hurt his back in a fall from scaffolding. He was treated for bruises and lacerations but had been worried at the time that his back had not been properly X-rayed. At the initial interview the patient expressed his reluctance at attending and implied that the medical profession had not given him an adequate explanation for his symptoms.

Mr Q was clearly reluctant to engage and part of the first inter-

view focused on finding a basis for continuing with therapy. The therapist explained that she often saw people with physical problems. Mr Q said it seemed as though his pain was being dismissed as 'in his mind' and that he was offended by this. The therapist stated that she did believe the pain was real and that in the course of CBT it might be possible to understand his pain better. Mr Q also said that his time might be better spent seeing a neurologist for his back pain and headaches. Further inquiry, however, revealed that he had previously seen two neurologists and on each occasion had come away feel-

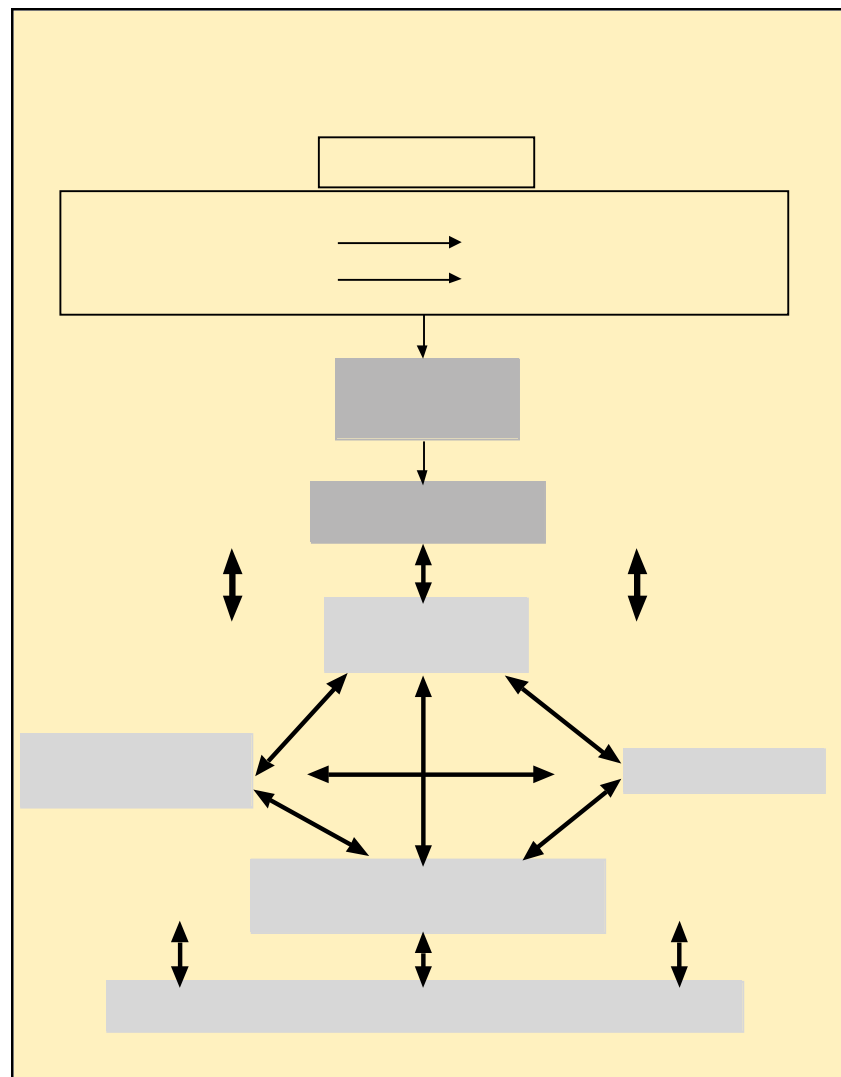


Fig. 2. Preliminary formulation: Mr Q.

ing his worries had not been fully addressed. Mr Q acknowledged that despite numerous consultations he felt no better and his life was increasingly restricted. The therapist then proposed that he experiment with an alternative approach, namely CBT, for 3 - 4 months. If this was not successful in relieving him of his concerns, he could then return to engaging with other medical professionals, as he had before.

At the end of the first session the therapist gave the patient a **self-monitoring** task which included monitoring his headache in relation to severity and his use of analgesics. He was also asked to record when he got palpitations and what he did when these occurred. With information gained in the first two sessions the therapist was able to make a **preliminary for mulation** (Fig. 2). Using incidents brought up by Mr Q, the therapist was able to demonstrate the interaction of physical symptoms-thoughts-emotions-behaviours. Her **explanation** of the cognitive model included a description of how vicious cycles might maintain his symptoms.

In subsequent sessions, self-monitoring tasks were extended to include situations which made his symptoms better or worse, emotional responses, associated thoughts and other health-related behaviours. His monitoring sheets revealed several episodes when he had been aware of his heart beating. His anxiety became moderately severe when this occurred. The palpitations were associated with the thoughts 'feeling my heart beating is a sign of heart disease', 'I am straining my heart'. The patient said he sometimes lay down when he felt his heart beating and avoided exercise.

The therapist then used a variety of **cognitive restructuring** techniques aimed at helping Mr Q come up with alternative explanations for his cardiac symptoms. These included Socratic questioning (a reattribution constructed by the client is more likely to have the ring of truth than one offered by the therapist); the provision of appropriate and new information (including information relating to the autonomic responses to anxiety and the effects of exercise); examining the evidence for and against a particular belief (such as the belief 'I am straining my heart'), and, finally, Mr Q was taught to identify logical errors.

Behavioural experiments and exposure tasks were also used. The therapist persuaded Mr Q to walk rapidly up the stairs in her building. She was able to demonstrate that when he was distracted he did not become aware of the beating of his heart. During this experiment he revealed that he would frequently check his pulse after exerting himself to see if it was going too fast. The maintaining effects of **checking and avoidance** were explained to Mr Q. He then agreed to engage in further exercise (an exposure task) without checking his pulse. He also agreed to accept reasonable limits in relation to visiting his doctor.

In the seventh session the patient became tearful while discussing his back pain. This was the only time the patient had been tearful and the therapist responded, 'talking about your pain seems to be evoking some very distressing feelings ... I understand this is very difficult ...'. After allowing a little time for reflection the therapist inquired 'can we talk about what went through your mind when you

became upset?' Mr Q initially said he was not aware of any thoughts but when asked whether he recalled any images he replied 'yes I have a picture of myself in a wheelchair ...' This was clearly an important revelation which allowed the therapist to explore the basis for this fear. Further enquiry revealed that his aunt had been wheelchair bound after an operation for a spinal tumour. She had been cared for by his mother before dying, when Mr Q was 8 years old. The therapist then inquired whether there had been any particular symptoms that indicated to Mr Q that he had a malignancy. Mr Q replied that he experienced numbness in his legs at times and that he was easily fatigued. The therapist then explored what Mr Q had been told about his back pain in the past. He recalled his GP saying that there was no evidence of a spinal tumour and that he had no other signs of a malignancy, such as weight loss or 'fatigue'. Every time Mr Q experienced fatigue he was reminded of the doctor's words.

The therapist then reflected 'I now understand a little better what has been worrying you. The pain and fatigue has frequently prompted you to think that you might have cancer of the spine. These thoughts may be associated with your aunt who was an invalid and was paralysed as a result of a tumour. You seem to have been exposed to a lot of illness when you were young. This must have been very difficult to cope with at times.'

In this example, interspersed with **empathic observations**, the therapist identifies a sudden **shift of emotion**, links it to the underlying **thoughts**, explores the basis for

these thoughts (the meaning of particular symptoms; conclusions drawn from the statements of doctors). Links are also made to the experience and meaning of **physical symptoms**. The intensity of the emotion triggered suggests we are dealing with a core concern and this seems to be confirmed by the memories which are uncovered.

Mr Q was asked to apply the cognitive techniques he had learnt to the problem of his back pain with some success. More emphasis was now given to identifying underlying beliefs and rules about illness, including the origin of these beliefs. He also described the complications his mother had suffered prior to her death, as well as his own sense of helplessness at the time. The final sessions of therapy were used to summarise what had been learnt. The therapist explored how he might continue to use some of the techniques he had found helpful. These included the use of regular exercise and relaxation as well as cognitive techniques of reality testing. A summary was made of adaptive health rules, such as defining what constitutes a reasonable interval for a particular symptom to persist before it requires medical attention.

EVIDENCE FOR THE EFFICACY OF CBT

CBT has been applied with benefit in conditions where there is an identified medical disorder (such as in cancer sufferers, post myocardial infarction and insomnia),^{2,5,9} in conditions where the problem is primarily one of perceived symptoms (for example hypochondriasis,¹ dysmorphophobia) and in conditions where the basis of symptoms is often uncertain (headache, chronic pain syn-

BOX 3

Assessing suitability for CBT

Good prognosis

- Accepts responsibility for self-management of problems
- Is able to make thought-feeling-physiology-behaviour links
- Is able to work independently, completes homework assignments
- Is able to work collaboratively
- Accepts the model might apply to their own problem

Guarded prognosis

- Chronicity of problems
- Numerous previous interventions
- Lifelong adjustment problems
- Extent to which an individual's identity is linked to the sick role

dromes, chronic fatigue, fibromyalgia).^{2,4} In many instances the evidence supporting efficacy is based on randomised controlled trials. Positive outcomes include reduced distress and reduced disability as well as an improvement in physical symptoms. There is also interest in determining whether CBT alters pathophysiological processes. This is of special relevance, in view of the accumulating evidence that psychological factors influence prognosis in some medical conditions.

SELF-HELP AND LIMITED INTERVENTIONS

A great variety of self-help material, utilising CBT principles and techniques, are available for patients with emotional disorders. These include written material, audio and video programmes, computer programmes (some of which are available over the Internet or via telephone) as well as self-help groups. The advantage of this approach is that it is cheap and there is evidence to support its effectiveness in certain situations.

Similar approaches are being investigated, in the health setting. For example, one study looked at the benefits of a self-help rehabilitation programme in patients who had

had a myocardial infarction. A package which incorporated a number of CBT approaches, including techniques for dealing with distressing thoughts, anxiety, depression and undue illness behaviour, was offered to the study group. Those who received the package were judged after 1 year to have a significantly better psychological adjustment and to have consulted their GP significantly less often.⁹ In another study, elderly patients with chronic obstructive airways disease were given CBT in a single 2-hour group setting. Those who received the intervention did significantly better than the control group in terms of alleviating anxiety and depressive symptoms, although there was no effect on health measures.¹⁰

CONCLUSION

The cognitive model is easy to grasp, it has wide applicability and there is growing evidence for its efficacy in medical settings. CBT is not however a cure-all therapy (Box 3). The cognitive model is not easy to apply to patients who are not motivated to manage their own symptoms and who have longstanding, complex and entrenched problems. Even for those patients most likely to benefit from CBT, we lack the resources and trained

therapists to provide it. But despite these limitations, it is encouraging that a wider range of professionals are becoming skilled in using CBT and that simpler techniques are being developed to enable its wider use. It is also to be hoped that with time, some of the concepts and strategies being developed in the field will come to be part of every clinician's repertoire of skills.

References available on request.

IN A NUTSHELL

CBT is an effective intervention in a range of medical settings.

Physical symptoms are an intrinsic part of the model in a way that does not allow for a simplistic mind-body split.

Health-related anxieties cause enormous distress and impairment – whether the anxieties are realistic, exaggerated, or totally unfounded.

The cognitive behavioural style of collaborative empiricism fits with the medical/scientific model and implicitly encourages the patient to take responsibility for self-management.

Patients with excessive anxiety show a typical pattern of dysfunctional thoughts.

Patients who are excessively anxious about their health typically develop a range of dysfunctional coping behaviours, including avoidance, checking and reassurance seeking, which have the effect of maintaining their anxiety.

Patients with functional somatic symptoms frequently resist psychological interventions.

Considerable skill may be required to engage with such a client.

CBT uses a wide range of techniques to address the 'dysfunctional thoughts' and 'safety behaviours' encountered in health-related anxiety.

SINGLE SUTURE

Cocaine and cardiac complications

About 25% of acute myocardial infarctions (AMIs) in people aged 18 - 45 years in the USA are attributable to frequent cocaine use. The possibility of cocaine use should be seriously considered in any young patient with minimal risk factors for cardiac disease presenting with an AMI, dilated cardiomyopathy, myocarditis or cardiac arrhythmias.

Pharmacological management of these patients is problematic, as there have been no well-designed, prospective, randomised controlled trials to compare treatment strategies for cocaine-induced myocardial ischaemia. Clinical experience supports the use of benzodiazepines, which attenuate the cardiac and central nervous system effects of cocaine. Antiplatelet therapy with aspirin, if not contraindicated, also may be warranted in view of the procoagulant properties of cocaine. Nitrites may also be indicated to reduce infarct size, reduce pain and reverse coronary vasoconstriction. Behaviour modification should follow.

(Vasica G. et al. *Med J Aust* 2002; **177**: 260-262.)

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