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Focus

Cognitive behaviour therapy and the management of chronic pain

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What is cognitive behaviour therapy?

Few approaches have generated as much interest over the last two decades as cognitive behaviour therapy (CBT). Based on the notion that thinking plays a role in the aetiology and maintenance of emotional and behavioural problems, this therapy aims to reduce distress by changing maladaptive beliefs and providing new information processing skills.
Cognitive behaviour therapy can be considered the "branch" name of a number of cognitive–behavioural interventions. Despite their common core, these approaches differ with respect to the processes that presumably mediate change and the procedures that are supposed to bring about change. All these approaches do, however, have the following principles in common:

- they are based on the cognitive model of emotional disorders
- they are brief and time-limited
- a sound collaborative therapeutic relationship is essential
- they are structured and directive
- they are problem-orientated
- they are based on an educational model
- homework is an essential feature
- they proceed according to the therapist's holistic conceptualisation of client and client's problems
- they use problem-solving techniques and break down problems into manageable units.

All CBT interventions attempt to influence change by influencing thinking. Even primarily in behavioural techniques (exposure), the change in thinking facilitates effective processing. These CBT approaches do not ignore contributions of prior experience, but

Key points

- Cognitive behaviour therapy (CBT) aims to change maladaptive beliefs and provide new information processing skills
- CBT follows the principles of:

1. Individuals are active processors of information
2. Thoughts can elicit or modulate mood, affect physiological processes, influence the environment, and serve as stimuli for behaviour
3. Behaviour is reciprocally determined by the individual and environmental factors
4. Individuals can learn more

they do suggest that the way in which an individual interprets an event plays a role in how that person responds. Thinking plays a role in determining subsequent affect and behaviour. Existing moods and the consequences of prior actions influence thinking itself. Thinking plays a strong facilitating role in the aetiology and maintenance of emotional and behavioural disorders, and can therefore serve to bring about therapeutic change.
This therapy is a reasonably short form of psychological treatment. Treatment of an uncomplicated depression or anxiety problem will last not longer than 15 sessions.
The two cases described in the box are prototypical examples of the clients with chronic pain problems we see in our practice. All have things in common in their "painful" history: many health professionals believe that psychological approaches do not work with chronic pain sufferers, and a comprehensive assessment of the person is not conducted.

TYPICAL CASES

1. **Claire, aged 37 years, complained of chronic back pain and attacks of dizziness**
   Claire came to our practice after having tried a range of specialists from neurologists to ACC counsellors and psychiatrists. Most treatments did not work, and some made her worse. Seven years ago she had a minor accident at work, and since then has had massive back pain and attacks of dizziness. These attacks overwhelmed her and did not seem to be related to anything. She got them when trying to work, but also while relaxing on the couch. She was taking antidepressants.
2. **Paul, aged 27, complained of chronic headaches**
   A psychiatrist, whom he has been seeing for four years to no avail, referred Paul. He had many medical tests but no conclusive answer to his incapacitating headaches of seven years. Paul was studying at university and doing very well.

adaptive ways of thinking, feeling and behaving
5. Individuals are capable of and should be involved as active agents in charge of maladaptive thoughts, feelings and behaviours

- Relaxation, distraction and activity scheduling techniques are taught along with better diet and posture

Cognitive–behavioural perspective on chronic pain
The role of cognitive factors in perception and behavioural response to pain stimuli .has been emphasised.1-3 From the cognitive–behavioural perspective, people who experience chronic or recurrent pain will develop negative expectations about their own ability to control certain motor skills without pain. They adopt a negative mindset about pain and how it will affect their lives, and appraise their situation as one where there is little they can do to cope with the experienced pain. Such negative, maladaptive appraisals about the situation and personal efficacy may reinforce the experience of demoralisation and depressed mood, symptom preoccupation, inactivity and overreaction to painful stimulation.
For Claire and Paul this was very clear. They both expected that all their activities would be accompanied by pain. If there were moments of no pain, they were quickly pushed aside with thoughts like "It is going to come back", "Don't relax, it will only hit me harder if I do." As a result both had reduced their activity pattern significantly. Paul stayed at home all the time, sitting in his semi-darkened room. Claire was a bit more mobile, but she oscillated between frantic over-activity and complete passivity. Her belief system led her to expect that she "should" be able to do tasks at pre-injury levels or that she "must" try to engage in a strenuous task.

Efficacy of different cognitive behavioural techniques
The efficacy of a variety of CBT techniques has been evaluated in several clinical pain studies. The clinical effectiveness of cognitive–behavioural interventions has been demonstrated with a wide range of acute, acute recurrent, and chronic non–cancer-related pain syndromes, including headaches,[4,5] arthritis,[6-9] low back pain, and heterogeneous samples of chronic non-cancer pain patients.[10,11]

Cognitive–behavioural treatment of chronic pain
The intervention package that AICBT offers clients with chronic pain consists of the elements set out below.

1. Learning to identify and correct mal-adaptive thinking styles
As an introduction to the cognitive–behavioural model, we teach the following principles:12-17

- individuals are active processors of information and not passive reactors
- thoughts (appraisals, expectancies) can elicit or modulate mood, affect physiological processes, influence the environment, and serve as stimuli for behaviour; conversely, mood, physiology, environmental factors, and behaviour can influence thought processes
- behaviour is reciprocally determined by the individual and environmental factors
- individuals can learn more adaptive ways of thinking, feeling and behaving
- individuals are capable of and should be involved as active agents in charge of mal-adaptive thoughts, feelings and behaviours.

We also teach how to apply this in practice. Clients learn the link between strong negative feelings with thought patterns. They learn to recognise irrational thinking and to replace it with more realistic appraisals. CBT is designed to help people identify, reality-test, and correct maladaptive and dysfunctional beliefs about themselves and their plight. Patients are encouraged to become aware of and to monitor the impact of negative pain-engendered thoughts and feelings on the maintenance of maladaptive behaviours. Additionally, patients are taught to recognise the connections linking cognition, affect, and behaviour along with their joint consequences. Finally, patients are encouraged to test the effects of these cognitions and beliefs with selected homework assignments.

2. Relaxation techniques
Deep relaxation has been demonstrated to be a state that blocks out pain signals. After periods of deep relaxation clients report they feel they have a "buffer" to withstand the negative impact of new pain stimuli. The relaxation techniques we teach are matched to the client's personal preference. Some prefer the "progressive relaxation method" (involves first tensing muscle groups and then relaxing them), while others prefer a more imaginary type of relaxation training.

3. Distraction techniques
Clients sometimes become so preoccupied with their pain that they find it difficult to think about other things. We teach specific distraction techniques to focus their mind on non-pain content, such as attentional switching (concentrating on a distraction thought/image, ie, a favourite landscape, and then thinking about the pain and following from that back to the image), complete distraction

CASE STUDIES

1. **Claire**
   Claire's pain and dizziness attacks seemed very random at first. When I started to teach her about rational and irrational thinking we made some progress. Claire had developed a belief about herself that she should be good, competent and in control of everything she did (her definition of good meant perfect!). As long as all things in her life remained within her control, no conflicting experiences occurred.
   Her minor accident meant she was no longer in complete control. This led to an acute stress reaction and anxiety attacks. When fit and healthy, she had been able to deal with stress by working harder and striving for excellence. This escape route was now blocked through her injuries; hence the anxiety symptoms. Claire's treatment consisted mainly of teaching her the cognitive model and how to work with it and activity scheduling. After 10 sessions during a period of five months she was back to full time work, but in a more relaxed mode.
2. **Paul**
   Paul's headaches seemed to be connected with three things: coffee intake, painkillers and elements of social phobia. Drinking one or two cups of coffee invariably led to a headache within the next two hours. Paul had never kept a precise diary of headaches combined with other issues, so he did not know this and was very surprised when abandoning coffee and tea reduced his

(counting backwards from 1000 in 13s or solving difficult puzzles).

4. Activity scheduling techniques
People suffering chronic pain often avoid increasingly more activities. Similarly to depressed people, they may focus only on the things they have to do, and stop doing pleasurable and enjoyable activities. As a result of this a self-defeating cycle emerges in which the person experiences less and less pleasure and satisfaction in their lives. Activity may be avoided because of fear of pain. By teaching clients to set manageable activity schedules which vary duty and pleasure, the activity range will increase and their concentration on pain experiences will decrease.

headache frequency by 40 per cent.
We also noticed that Paul took quite a few painkillers, some on prescription and some "over-the counter". Taking painkillers only rarely led to a significant reduction in pain. What happened was that Paul misjudged his relief reaction (= "Thank God, the pain should go down any minute"), combined with his behaviour (= "I have taken a painkiller, so I can at least go for a walk") for the effects of the painkillers. In fact we found some evidence that using painkillers led to an increased awareness of pain symptoms. Teaching Paul distraction and relaxation strategies and using motivational interviewing got us to a point where he was able to experiment by not taking any painkillers for a week. To his surprise, the frequency of the headaches was reduced by 50 per cent after 10 sessions.
By then we had also found that Paul had a major social phobia problem. Focusing on this for six sessions resulted in reducing the headaches to "normal" proportions.

5. Assistance in diet and posture management
Diet and posture can contribute quite considerably to the experience of pain. One of the first steps in our assessment is to ask clients to monitor their pain experiences and relate them to other things in their lives, like food and drink intake, activities and painkillers. This often leads to interesting results – certain drinks, foods and painkillers leading to an increase in the pain experience. Experimenting with leaving out the identified culprits can prove helpful. A referral to a teacher of the Alexander Technique or a physiotherapist can prove beneficial.

What can GPs do?

Symptom monitoring: monitoring the most disturbing symptoms will assist patient and GP in assessing the development and seriousness of the problem. Patients can keep a log of their pain experiences, daily mood, their activities, sleep, appetite, etc.
Teaching about thinking errors:4 the GP can discuss with the patient about how thinking contributes to emotional upsets which in turn contribute to pain, and give the patient a list of thinking errors.* The patient can be given the task to "assess" which thinking errors are their favourites.
Teaching about mood–activity links: For patients whose activity pattern has become very limited and/or purely duty, the GP can explain the link between pain, mood and activities. The patient can be asked to experiment with activities, eg, although they may not feel like doing something, most patients are surprised to find that their negative predictions do not come (completely) true!

Referral strategies for specialist psychological treatment

Referring patients with psychological problems is best done in an interviewing style based on motivational interviewing.4 The following steps are indicative of a good referral:

- Summarise symptoms – check with the patient whether you have understood their symptoms of concern correctly.
- Does the patient want to change? Check whether they want to invest in bringing about change in the symptoms. Realise (and make the patient realise) that treatment always involves an active ingredient from the patient's perspective (even if it is only taking medication as prescribed).
- List the alternatives – alternative strategies for bringing about change in the symptoms.

Help the patient make up their mind by giving the pros and cons of these possible alternatives. Stress that a decision to go with a certain option (eg, antidepressants) need not be a solution forever. You and the patient will evaluate each solution in due course.

- Symptom monitoring – summarise the patient's choice and agree on an evaluation period (decide the parameters of the evaluation), ie, a patient who feels seriously depressed with continuous low mood might choose to focus on mood improvement as an indicator of treatment success.

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*** A simple scale for measuring wellbeing, a guide on the use of motivational interviewing, and information on thinking errors are all available free of charge from AICBT, 17F Whitaker Place, Grafton, Auckland.**