

THE INTERSECTION BETWEEN THE COGNITIVE AND THE BEHAVIOURAL IN CHRONIC PAIN

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It is well known that there is a strong evidence base for using CBT in treating chronic (non-cancer) pain. This paper explores some strategies within CBT, specifically the effect of mindfulness, and also education about the neurophysiology of pain, on behaviour in a chronic pain environment, from an evidence base within a CBT framework.

This paper will present the following:

1. What is cognitive behavioural therapy (CBT)?
2. aspects of CBT
 - a. mindfulness - old and new evidence
 - i. Why would mindfulness strategies be useful for chronic pain clients?
 1. The clear effect on stress reduction
 2. the clear effect on improved immunity
 - b. educational focus
 - c. mind effect on body
3. what is a cognitive behavioural approach?
4. when do you need to call in a therapist?

1. WHAT IS COGNITIVE BEHAVIOURAL THERAPY?

CBT is a form of psychotherapy that emphasizes the importance of “thinking” in how we feel and what we do. Simply put, the cognitive – the thinking part of our experience – very much affects the behavioural – the action part of our experience. Indeed there is a causal relationship between our thinking and our feelings and behaviours. The practical and wonderful thing about this, is that we can change the way we think in order to feel and behave more comfortably and acceptably, even if the situation has not changed.

CBT has an educational focus. CBT therapists focus on teaching rational self-counselling skills. It is informative, and indeed this paper will spend a moment looking at the educational aspects of CBT more broadly when applied to helping people living with pain. When people understand what the processes are that are leading to their current situation, they are in a better position to effectively control them. When people know how and why they are progressing, they can continue

doing what they are doing to make themselves well. The inductive method of CBT encourages us to look at our thoughts as being hypotheses that can be questioned and tested. If we find that our hypotheses are incorrect (because we have new information), then we can change our thinking to be in line with how the situation really is. Cognitive theory helps a person to assess the evidence which supports or does not support their beliefs about what is happening to them.

2. Aspects of CBT

a. Mindfulness strategies – old and new evidence

Cognitive Behavioural Therapy is derived from the work of some very old philosophers indeed. Socrates played a part in the development of the rational approach of CBT, as did Epictetus who said that it is not the things of this world that hurt us but what we think about them. There is another very old source for a therapy that is gaining higher ground within CBT, ie, mindfulness. "Mindfulness" is defined as moment-to-moment non-judgemental awarenessⁱ. For those of us who meditate, this definition sounds familiar, and indeed a theme that is found throughout many of the Eastern Philosophies. There is much popular literature espousing the benefits of this old and new evidence:

"all negativity is caused by an accumulation of psychological time and denial of the present. Unease, anxiety, tension, stress, worry – all forms of fear – are caused by too much future, and not enough presence. Guilt, regret, resentment, grievances, sadness, bitterness, and all forms of non-forgiveness are caused by too much past, and not enough presence"ⁱⁱ

Within CBT, the application of mindfulness concepts started in 1979 when Mindfulness Based Stress Reduction (MBSR) was introduced by Jon Kabat-Zinn, designed to teach patients with chronic medical conditions how to live fuller healthier more adaptive lives. In particular this therapy has some good evidence that MBSR is helpful in the self regulation of chronic pain.ⁱⁱⁱ The central idea was intensive training in mindfulness meditation and how to apply this to living and coping with stress, pain and illness.

The practice of mindfulness is not to be confused with relaxation training in particular, although it may be used with relaxation training. Quite clearly as the following indicates, the aim is also to deal with the noxious:

"a good deal of the time, the practice of mindfulness may mean being with and observing states of mind and body that are extremely painful or dysphoric, including fear, loneliness, anger, bodily discomfort, impatience, boredom, and the like"^{iv}.

(i). Why would mindfulness strategies be useful for chronic pain clients?

1. The clear effect on stress reduction

It is accepted that psychosocial factors account for approximately 70% of the variance in disability in chronic non-cancer pain^v. For many clients there is an overwhelming sense of having no control over their situation, that their lives are overtaken by factors including reduced physical capacity due to pain, leading to inability to undertake activities associated with normal family roles, work roles, intimacy and leisure etc. This quickly leads to an altered and increasingly negative sense of self. Many stressors are noted for these clients, relating to these changes. Family dynamics alter. Friendships are no longer enjoyed, indeed they may come to a halt.

It has been found that mindfulness meditation can produce significant changes - increases in relative left-sided anterior activation in the brain - that are associated with reductions in anxiety and negative affect and increases in positive affect^{vi}. Davidson (2003) has suggested on the basis of evidence on the neural bases of emotion regulation, that left sided anterior activation is associated with more adaptive responding to negative and or stressful events^{vii}.

2. the effect of mindfulness on improved immunity

For many of the clients seen by The Chronic Pain Group for initial assessment, there are signs of decreased wellbeing, not only in terms of psychosocial issues, but also many clients report greater incidence of vulnerability to illnesses such as colds and flu. Negative psychosocial influences on immunity have been well established^{viii}. Mindfulness meditation based strategies have been shown to improve immune function in this population^{ix}.

b. educational focus

We mentioned earlier that a focus of the role of a CB therapist is education. This is usually in the domains of thinking skills - rationalising and other cognitive strategies. We argue strongly that specific education about the neurophysiology of pain is most helpful for increasing the client's sense of control and decreasing a sense of fear. This is confirmed in the research literature^{xi}.

c. mind effect on body

With our clients at The Chronic Pain Group we work on cognitive as well as physical skills. Our consultants are clinical psychologists and exercise physiologists who work in concert with the client in order to interpret the client's goals in both cognitive and physical domains. Our exercise physiologists work with a mind-effect-on-body strategy, assisting the client to focus attention on particular movement strategies. This mindfulness of movement has been found in the research as being useful. For a group of people with multiple sclerosis, for example, training in mindfulness of movement appears to result in improved symptom management^{xii}

3. what is a cognitive behavioural approach?

- Provide a positive expectation that the individual will return to work and normal activity.
- During regular reviews of progress, shift the focus from pain to function. Instead of asking “how much do you hurt?” ask “what have you been doing?”
- Keep the individual active and at work even for a small part of the day.
- Acknowledge difficulties with ADL’s but avoid making the assumption that these indicate all activity or any work must be avoided.
- Help to maintain positive cooperation between the individual and employer, the compensation system, and health professionals.
- Communicate that more time off work is likely to lead to reduction in the likelihood of returning to work.
- Be alert for the presence of a belief that he should stay off work until there is a “total cure”.
- Promote self management and self responsibility
- Be prepared to ask for a second opinion as long as it doesn’t cause long delays, in order to clarify that further diagnostic procedures are unnecessary^{xiii}.

4. when do you need to call in a Cognitive Behaviour therapist?

When advice to stay normal has failed, and the client is demonstrating:

- High levels of fear avoidant behaviour
- High levels of distress
- High levels of anger and unhelpful rumination
- High levels of feeling out of control

ⁱ Davidson, RJ, Kabat-Zinn, J. Alterations in brain and immune function produced by mindfulness meditation: three caveats: response. *Psychosom Med*, Vol 66(1) 2004. 149-152

ⁱⁱ Tolle, E. *The Power of Now*. Hodder Headline Australia. 1999 (p50)

ⁱⁱⁱ Kabat-Zinn J, Lipworth L, Byrney R. Four year follow up of a meditation based program for the self regulation of chronic pain: treatment outcomes and compliance. *Clin J Pain*. 1987; 2: 159-173

^{iv} Davidson, RJ, Kabat-Zinn, J. Alterations in brain and immune function produced by mindfulness meditation: three caveats: response. *Psychosom Med*, Vol 66(1) 2004. 149-152

^v Burton, A.K., et al., *Psychosocial predictors of outcome in acute and sub-chronic low back trouble*. *Spine*, 1995. 20(6): p. 722-8.

^{vi} Davidson et al. *Alterations in Brain and Immune Function Produced by Mindfulness Meditation*. *Psychosom Med* 65:564-570 (2003)

^{vii} op cit

^{viii} Kiecolt-Glaser JK, Garner W, Speicher CE, PennGM, Holiday J, Glaser R. Psychosocial modifiers of immunocompetence in medical students. *Psychosom. Med* 1984; 46:7-14

^{ix} Davidson et al 2003.

^x Cohen S, Herbert TB. Health psychology: Psychological factors and physical disease from the perspective of human psychoneuroimmunology. *Ann Rev Psychol* 1996; 47: 113-42

^{xi} Moseley, GL (2003b). *Joining Forces – combining cognition-targeted motor control training with group or individual pain physiology education: A successful treatment for chronic low back pain. Jnl Man and Manip Ther (in press)*

^{xii} Mills, N, Allen, J. *Mindfulness of movement as a coping strategy in multiple sclerosis. General Hospital Psychiatry 2000; Vol 22, 6: 425-431*

^{xiii} www.acc.org.nz/acc-publications/pdfs/ip/psychosocial-guide.pdf