

Pain has a habit of blurring the edges of reality." Chris Wells, The Pain Relief Handbook

Difficulties in thinking abilities are a disconcerting and troublesome offshoot of chronic illness that are perhaps underestimated. Certainly, this sort of problem is rarely addressed directly until it becomes a major issue. Nevertheless, even relatively minor impairment can have a significant impact upon quality of life.

"Pain demands attention, interrupts behaviour and is difficult to disengage from"
Prof. Dr. Geert Crombez ([1])

Professor Crombez has identified several variables that amplify the interruptive function of pain have been identified:

- Intensity,
- Novelty,
- Unpredictability and
- The threat value of pain.

He has performed studies that suggest, "Attentional interference was best predicted by the interaction between pain severity and pain-related fear."

Professor Stephen Morley of Leeds University gave a seminar in March 2000, in which he discussed redesigning psychological treatments for chronic pain.

He proposed 3 categories that are important in chronic pain management: ([2])

Interruption: when pain interrupts thought/behaviour flow

Interference: when pain interferes with a task/goal achievement

Identity: the pain changes one's core sense of self.

A paper entitled 'Anxiety and related factors in chronic pain' published in the Spring 2002 edition of Pain Research and Management (official journal of the Canadian Pain Society) describes the effect of 'pain catastrophising' which was shown in a study to substantially 'enhance attentional interruption by pain', in other words, negative attitude to pain, especially fear, makes the difficulty in thinking clearly worse.

Memory has two dimensions: sensory (incoming information) and affective (emotion). The latter depends upon our early experiences with pain (which contribute to our 'pain memory').

The emotional component of pain tends to be recalled more strongly (Pancyr and Genest 1993[3]) and of course current emotions being experienced have an influence on the pain experienced.

The second aspect of the memory-pain relationship, the influence of pain on access to memorised information is a frequently experienced problem.

Studies ([4]) suggest that pain can affect the way in which people recall their overall experiences and tends for some reason towards recall of unpleasant rather than pleasant events.

Eich et al. demonstrated that pain impeded access to recall of pleasant personal experiences, whilst improving recall of unpleasant events, although this was only in cases in which there was both pain and low mood.

The authors concluded that these distortions in autobiographic memory might be responsible, to some extent, for the frequent association observed between pain and depression.

Apkarian et al. ([5]) noted,

“Chronic pain can result in anxiety, depression and reduced quality of life. However, its effects on cognitive abilities have remained unclear although many studies attempted to psychologically profile chronic pain.”

They looked at cognitive impairment due to chronic pain in performance of an emotional decision-making task based on a hypothesis resulting from human brain imaging studies showing that brain regions critical for this type of ability are also involved in chronic pain.

They used the Iowa Gambling Task, and found that only pain intensity assessed during the gambling task was correlated with task outcome and only in chronic back pain patients (not the CRPS patients), whereas other cognitive abilities, including attention, short-term memory, and general intelligence tested normal in the chronic pain patients.

They concluded,

“Our evidence indicates that chronic pain is associated with a specific cognitive deficit, which may impact everyday behavior especially in risky, emotionally laden, situations.”

Secondary Consequences:

Smith et al. ([6]) have just published a paper on sleep disturbance, depression, and heightened risk of suicide which are among the most clinically significant sequelae of chronic pain.

Sleep disturbance is a known predictive factor for suicide risk in depressed patients, but this had not been previously investigated in patients with chronic pain. 51 patients with chronic non-malignant pain were studied.

Sleep onset insomnia, pain intensity, medication usage, pain-related interference, affective distress, and depressive symptoms were found to be related to development of suicidal ideation (but not intent).

The authors concluded:

“Chronic pain patients who self-reported severe and frequent initial insomnia with concomitant daytime dysfunction and high pain intensity were more likely to report passive suicidal ideation, independent from the effects of depression severity.

Future research aimed at determining whether sleep disturbance is a modifiable risk factor for suicidal ideation in chronic pain is warranted.”

[1] <http://aivwww.rug.ac.be/Onderzoeksbeleid/techno2002/EN/PP/PP05V99.htm>

[2] Source: CAP Seminar www.ncl.ac.uk/applied.psychology/seminar.15.html

[3] Pancyr, G., & Genest, M. (1993). Cognition and pain experience. In Dobson, K. S., & Kendall, P. C. (Eds.). *Psychopathology and Cognition*. New York, NY: Academic Press, Inc.

[4] Eich, E.; Rachman, S. and Lopatka, C. *Journal of Abnormal Psychology*, 1990; 99: 174-178. Affect, pain and autobiographical memory.

[5] Apkarian AV, Sosa Y, Krauss BR, Thomas PS, Fredrickson BE, Levy RE, Harden RN,

Chialvo DR. Pain. 2004 Mar;108(1-2):129-36. Chronic pain patients are impaired on an emotional decision-making task.

[6] Smith MT, Perlis ML, Haythornthwaite JA. Clin J Pain. 2004 Mar-Apr;20(2):111-118. Suicidal Ideation in Outpatients With Chronic Musculoskeletal Pain: An Exploratory Study of the Role of Sleep Onset Insomnia and Pain Intensity.