

Psychological Aspects of Pain

Psychology is the study of the human mind as it functions as the centre of thought, emotion, and behavior. Pain is one of many extrinsic factors that alter these mental functions.

Pain alters how we think, feel and behave. Thinking, or cognition, is the most important factor in how we function. Our cognitive processes effect how we feel and how we behave.

When a person gets pain the cognitive processes change. Pain can reach the point where it dominates these cognitive processes. This in turns affects the ability to think rationally, and it consequently affects how we behave. If we have an underlying tendency towards bad behavior, pain may eventually make these bad behaviors come out. For example, people in pain have a tendency to become angrier, more self-absorbed, more demonstrative etc.

We all know what it is like to feel somewhat depressed. Often this is in response to a situation we find ourselves in, such as in a relationship, or to an event, such as losing a job. This type of depression is reactive depression. In order to be rational about this condition and to use the best methods to turn this feeling around, we need to be able to think clearly. If a person going through such a life turmoil then develops pain, the necessary cognitive processes may already be stretched to their limits, and this one extra factor may lead to worsening of the underlying psychological state. This in turn can produce added anxiety, which in turn can lead to pain exacerbation for chemical reasons (such as excessive release of say noradrenaline, which in turn can sensitise the sympathetically controlled component of the pain system). Additionally, the ability to use cognitive processes to manage the depression and the pain becomes compromised.

In such situations our behavior changes. A person who has a tendency to anger, which was previously suppressed when life was under control, can then start to express this anger. The fuse becomes shorter under stress situations.

The drugs that are used in the treatment of pain have significant effects on the cognitive processes. Analgesics dull our cognitive processes. They have a tendency to add to depression, and they certainly make it harder to be motivated to not only think, but also do. Patients who take strong analgesics for control of chronic pain tend to think less, exercise less, become overweight and get more depressed. The decrease in the ability to think clearly is a primary reason for these effects.

We can use our cognitive processes to achieve pain relief. The use of biofeedback has been shown to improve pain intensity by as much as 25%.¹ In this study people with pain were able to see what happened in their brain by viewing changes in

Remember:

- The primary goal is to help you find ways to manage your pain and return to your usual activities.
- It is important to work with your health practitioner to manage your pain and address your concerns.
- If pain persists it is important to follow up with your doctor or health practitioner as you may need further assessment.

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response to a pain stimulus on a functional magnetic resonance imaging machine. By then making changes to the way they thought they were able to see the changes in the brain, and, at the same time, improve their pain scores by as much as 25%. Such studies confirm that appropriate cognitive processes are necessary for optimal pain control, and as a corollary, that inappropriate thinking may exacerbate pain. Unfortunately the use of this biofeedback technique is not available for the relief of pain, as each machine costs over \$4 million. However, other methods of using our thought processes are available, and others are sure to be adopted in the future.

At the present time the tools used for using the mind to control pain include cognitive-behavioral therapy. In this therapy people in pain are taught how to maximise the use of their thought processes to control pain.

References

1. Phillips H, Controlling pain with your brain. New Scientist.com. May 1, 2004

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