

## Key Points

1. Chronic pain exacts a high toll on physical health, mental health, and overall quality of life
2. Recently theories on pain and pain management have begun to look at combining the physical and psychological aspects of chronic pain
3. Study surveyed over 1,200 pain patients in the Netherlands about their pain intensity, beliefs about pain, and quality of life
4. Study found some differences between men and women
5. Also found that how people respond to pain had the strongest influence on quality of life
6. Specifically, people who had an exaggerated, negative response to pain scored significantly lower on every aspect of quality of life
7. Results stress the importance of combining psychological and physical treatments for chronic pain

## Definitions

**acute** - of short duration

**catastrophizing** - an exaggerated, negative response towards pain and painful experience

**chronic** - lasting a long time; chronic pain is often defined as lasting longer than 3-6 months

**complex regional pain syndrome (CRPS)** - type of chronic pain that sometimes develops after an injury - or surgery - to an arm or leg

**cross-sectional** - type of study which examines a group (usually large) of subjects at only a single point in time

**fear-avoidance theory** - pain theory which suggests catastrophizing results in a fear of moving and doing things (for fear of making things worse) which in

## Beliefs About Pain Strongly Influence Quality Of Life

As documented over the past several months by this publication, chronic pain exacts a high price from almost every aspect of a person's life. Research has shown that people in chronic pain are at risk for high blood pressure, have lower overall health, and suffer from depression and anxiety. Chronic pain has also been shown to actually shrink brain tissue over time. Beyond the mental and physical, chronic pain impacts family life, social life, and personal finances as well.

Given the multidimensional impact that chronic pain has, it seems only fitting that recent theories on pain and pain management have taken a multidimensional approach as well. Specifically, research has shown that the mental aspects of chronic pain may be just as important as the physical ones.

One leading theory on pain is the Gate Control Theory. The Gate Control Theory suggests that as pain signals travel along nerves up the spine they pass through "gates". At these gates, the pain signals can be increased or decreased in strength. What controls these pain gates are actually higher order cognitive processes such as emotion, experience, and distraction. More specifically, positive emotions and the distraction of doing something interesting tend to close pain gates and reduce pain. While there is substantial evidence that the higher brain centers do influence the perception of pain, a physical, organic equivalent of the pain gates has yet to be found.

A second pain theory which incorporates both physical and psychological elements is the fear-avoidance theory. This theory holds that people who have an exaggerated negative response to pain - officially known as catastrophizing - will avoid doing things because they fear things will get worse. This avoidance then leads to less activity which in turn can lead to increased disability and depression. For example, someone who catastrophizes neck pain may be afraid to drive for fear of making things worse. This in turn would greatly limit their mobility and may lead to social withdrawal.

If there is any truth to the fear-avoidance theory then one might expect that people who tend to have exaggerated responses to pain would have a lower quality of life, and indeed that is exactly what a study out of Maastricht, Netherlands has found.

In the February, 2005 issue of the European Journal of Pain, Inge Lame and colleagues reported the results of a study they performed on over 1,200 pain patients at the Maastricht University Hospital Pain Clinic. Between February, 2000 and March, 2003 questionnaires were sent to every new pain patient asking about things such as demographic background, pain location and intensity, pain coping and beliefs, pain catastrophizing, and quality of life. Over 1,200 (91%) of the patients responded.

Specific questionnaires included:

- Rand - 36, Quality of Life: this measures quality of life in eight distinct areas: physical functioning, social functioning, role limitations physical, role limitations emotional, mental health, vitality, bodily pain, and general health perception.
- PCCL - Pain Coping and Cognition List: questions measure pain coping, pain catastrophizing, internal pain control, and external pain control.
- PCS - measures how often and much people think exaggerated, negative thoughts about pain; three dimensions: rumination, magnification, and helplessness.
- MPQ - uses a list of adjectives to assess quality and intensity of pain.

The average age of the pain patients was close to 50 and there were more women than men (62% to 38%). There were a wide range of pain ailments, which the researchers grouped into 5 categories: headache, neck/arm, back/leg, other (including CRPS and neuropathic), and those who suffered from multiple types of pain (see Table 1).

The type of pain did play a role in the reported quality of life measures, with those in the multiple pain category fairs the worst. Additionally, there was a small difference between women and men, with women reporting lower scores in physical functioning, role limitations, vitality, bodily pain, and general health.

The most interesting finding by far, however, was that beliefs about pain - pain catastrophizing - was the biggest single factor in the quality of life scores. Across all 8 domains, from physical to mental, those who catastrophized pain more (in other words, tended to have exaggerated negative reactions) scored significantly lower. This effect was even stronger than the actual intensity of pain itself.

Although you can't prove that one thing causes another with this type of study design, the results from such a

turn leads to depression, disuse, and disability

**gate control theory** - pain theory which suggests that as pain signals travel along nerves in the spine they pass through "gates" and can be increased or decreased in strength due to things such as emotion, experience, and distraction

**neuropathic pain** - pain which results from damage to the nervous system

**pain** - sensory and/or emotional discomfort

large population go a long way in emphasizing the important role that a person's psychological reaction to pain can play. Because of this, and similar results from other research, some scientists are beginning to focus on how people respond to pain as an important factor in the transition from an acute painful episode to a chronic experience.

This line of research also highlights the importance of a multidisciplinary approach to treating chronic pain and that psychological factors can not be ignored.

As with other types of general research, it would be interesting to see this type of study done specifically on Chiari and syringomyelia patients. Until that happens however, this certainly does provide some food for thought.

--Rick Labuda

[**Ed. Note:** For those interested in reading more about the psychological aspects of chronic disease and pain, check out one of our early In The Spotlight interviews: [Dr. Frank Keefe, Health Psychologist and Pain Researcher](#)]

### Source

Lame IE, Peters ML, Vlaeyen JW, Kleef M, Patijn J. [Quality of life in chronic pain is more associated with beliefs about pain, than with pain intensity.](#) Eur J Pain. 2005 Feb;9(1):15-24.

**Table 1**  
**Pain Location/Type (1,208 subjects)**

Location	% of Total
Headache	2.4%
Neck/Arm	23.3%
Back/Leg	27.9%
Other (CRPS, neuropathic, etc.)	15.7%
Multiple	30.1%

**Table 2**  
**Gender Differences In Quality of Life Reporting**

Domain	Male	Female
Physical functioning	44.0	39.6
Social functioning	41.4	39.0
Role limitation physical	12.3	8.2
Role limitation emotional	47.2	46.3
Mental health	57.7	56.1
Vitality	42.5	38.1
Body pain	27.0	23.1
General health	46.4	43.6

**Note:** Scores are group averages on a scale of 0-100 with a higher score indicating a greater level of functioning or higher QoL

### Related C&S News Articles:

[Chronic Pain Linked To High Blood Pressure](#)

[Chronic Pain Is Hard On The Brain](#)

[Talking About Chronic Pain](#)

[The High Cost Of Neuropathic Pain](#)

[How Neck & Arm Pain Affect Overall Health](#)

[Home](#) | [About Us](#) | [Email](#) | [Donate](#) | [Get Involved](#) | [Privacy Policy](#)

**Disclaimer:** This publication is intended for informational purposes only and may or may not apply to you. The editor and publisher are not doctors and are not engaged in providing medical advice. Always consult a qualified professional for medical care. This publication does not endorse any doctors, procedures, or products.

