TO CONTROL OR NOT? A MOTIVATIONAL PERSPECTIVE ON COPING WITH PAIN.

Emelien Lauwerier[1], Stefaan Van Damme[1], Liesbet Goubert[1], Koen Paemeleire[2], Jacques Devulder[3], and Geert Crombez[1]

1 Department of Experimental-Clinical and Health Psychology, Ghent University, Ghent, Belgium

2 Department of Neurology, Ghent University Hospital, Ghent, Belgium

3 Multidisciplinary Pain Center, Ghent University Hospital, Ghent, Belgium

Correspondence and requests for reprints to:

Emelien Lauwerier, Department of Experimental-Clinical and Health Psychology, Ghent University, Henri Dunantlaan 2, B-9000 Ghent, Belgium, Tel +32 9 264 91 06, Fax +32 9 264 6489 (email: Emelien.Lauwerier@Ugent.be)

Number of text pages: 16

Number of tables: 0

Number of figures: 0

Abstract

Pain relief is often the primordial treatment objective in pain patients. However, an exclusive focus upon pain relief may have costs. Evidence is accumulating that persistent attempts to gain control over pain may, paradoxically, hinder successful adaptation to pain and increase frustration and limitations due to pain. To better understand these apparently paradoxical findings, we propose to adopt a motivational perspective on coping with pain. Within this perspective, pain control is recast as an attempt to protect and restore valued life goals threatened by pain. This framework explains why some patients engage excessively in pain control strategies despite the costs associated with this, such as overuse of medication. A clinical implication is that cautiousness is warranted in promoting strategies exclusively aimed at pain relief. Beyond standard medical care, interventions should also be aimed at the improvement of functioning despite pain. Certainly those patients for whom there is no definite or sound cure to pain and who increasingly experience emotional and physical problems due to pain might benefit from paramedical help by psychologists and/or physiotherapists.

Key Words: pain, chronic pain, coping, pain relief, acceptance, motivation

1. Introduction

Case Peter (42 year-old male, businessman)

Peter presents in tertiary care with complaints of severe disabling daily headache. He describes a 20-year history of episodic migraine, transformed into a pattern of chronic daily headache (CDH) for over 12 years. After a few examinations, he is diagnosed with Medication-Overuse Headache (MOH). After successful withdrawal from his medication and consecutive improvement, he again experiences significant episodes of headache over the next months. Eventually, he relapses into the same pattern of medication overuse…

Case Mary (38-year-old female, employee)

Since a few years, Mary suffers from persistent widespread pain and recurrent symptoms of fatigue and loss of concentration. After having consulted several specialists, she presents in a multidisciplinary pain clinic. Based on examinations, she is given the diagnosis of 'fibromyalgia' and is included in a multidisciplinary pain program. After a few months, she experiences less disability due to her pain. Still, she hopes for a solution for her pain and seems to be unable to go on with her life…

The above cases and the problems they pose might sound familiar to a clinical practitioner treating patients with recurrent or chronic pain. Although Peter and Mary suffer from different pain conditions that require distinct treatment, the cases might have more in common than we think at first. First, they both suffer from persistent pain, which hinders them in their daily functioning and the things they

want to achieve in life. When asked about their future prospects, Peter desperately wants to take up his responsibilities at work, whereas Mary would love to go to work again, do her household chores and spend quality time with her children. Second, their ways of dealing, or, in psychological terms, coping, with pain are largely focused upon pain relief or control. As the cases show, there are many different ways of achieving pain relief or pain control (e.g., medication intake, consultation of medical professionals). Third, neither Peter or Mary seem to be able to easily surrender their pursuit of pain control, despite the costs that are associated with it or the impasse they're in. There are at least a few intriguing questions that may pop up in the reader's mind: (1) Is *pain control* a good option?; (2) Why do some patients seem to be fixed in seeking *pain control despite negative consequences*?; and/or (3) Are effective *treatment options* lacking in helping patients with persistent pain? In this article, we will try to more thoroughly discuss those questions by tackling the dangers of the exclusive use of pain control as a coping strategy (question 1; see section 2), describing a renewed perspective on coping with pain (question 2; see section 3) and suggesting some clinical implications (question 3; see section 4).

2. Coping with pain: need for pain control?

It has long been thought that feeling in control over pain is beneficial and that attempts to gain control over pain lead to better adjustment over time. Indeed, some studies support the beneficial effects of perceived control over pain[1,2]. Conversely, a sense of lack of control may promote feelings of helplessness[3] and may be associated with unfavorable adaptation to pain[4,5]. Although this view is intuitively appealing, research on pain control has yielded inconclusive evidence. An exclusive focus on pain control may also lead to greater suffering and

disability[6,7]. Paradoxically, despite those obvious negative consequences, some patients seem to persist in coping strategies aimed at controlling pain[8,9]. It might therefore be helpful to shift the focus from the question *whether* pain control is adaptive to the question *when* it is.

Before we introduce a renewed perspective on pain coping and, more specifically, pain control, we should first say something more about the nature of stress. Writing about stress, Lazarus and Folkman[10] were about the first to point out that stress is defined by the appraisal of the situation as either threatening, harmful or interfering. As a consequence, the more a stressor is perceived as threatening, devastating or interfering with functioning, the more likely coping responses will be initiated. According to Skinner, Edge, Altman and Sherwood[11] there are three classes of coping responses that are assumed to be adaptive in dealing with stress: (1) responses related to a removal of the stressor (e.g., problem-solving), (2) responses related to the utilization of social resources (e.g., social support seeking), and (3) responses related to an adaptation to the stressful situation (e.g., acceptance). This approach is interesting because it takes into account the context of coping with stress.

Pain, in itself, is an archetypal stressor: (1) it may be perceived as threatening, interruptive and aversive[12]; and (2) it may interfere with life tasks and everyday functioning[13]. Following Skinner et al.[11], there might be several options to deal effectively with pain. Roughly stated: one may try to remove or control pain, or try to adapt to or accept pain. Whether one of those responses is adaptive or maladaptive will depend upon the context, such as the nature of the pain. Trying to remove or control pain may usually be an adequate response to acute and controllable pain, but may become futile when pain persists and cannot be

controlled[8]. One model that nicely fits the contextual view on coping with stress, is the Dual Process Model of coping[14]. In the following section, we describe its core assumptions and apply it to the context of pain. We will prove it to be useful in understanding the cases of Peter, Mary and numerous others struggling with the problem of chronic or recurrent pain.

3. Coping with pain re-visited: the pursuit of valued activities and life goals

The Dual Process Model[14] was originally developed to understand adaptation in response to ageing-related problems. It describes how, as they get older, individuals naturally lower their efforts to solve encountered problems that block their functioning and valuable life goals. Instead, with increasing age, individuals' motivation to adapt their goals to the restricting condition heightens. Efforts at solving problems that block functioning are reframed as 'assimilative coping', whereas the adaptation of goals to the situation is called 'accommodative coping'.

In the context of pain, which is most often a signal of threat urging individuals to take action, attempts at removing or controlling pain may be categorized as 'assimilative coping'[9]. Assimilative coping may take different forms. One may be motivated to ignore the pain and to stay committed to earlier activities and life goals (persistence). Indeed, there is evidence that some patients persist in their activities despite pain[15]. At first sight, it seems adaptive to prevent interference by pain and to continue with activities. However, preliminary evidence suggests that excessive persistence in activities despite pain may also come along with costs, such as risk of chronicity of pain[16,17]. Mostly studied is, however, the form of assimilation in which one engages in attempts at controlling or solving pain. Effort and attention are being narrowed to the goal of pain control[9]. When pain is acute, active attempts to control it are mostly effective[18]. But an increased effort towards

pain control may also come along with costs. Intake of medication, for instance, may result in overuse with obvious costs, as illustrated in the case of Peter. In a way of dealing with her chronic medically unexplained pain, Mary's doctor visits may take the form of doctor-shopping with an increased risk for multiple interventions[8]. Like Mary, many chronic pain patients are found to engage in assimilative coping in an attempt to find the ultimate cure for pain, often at the expense of other valuable goals. Paradoxically, it may be the increase in effort towards the goal of pain control that maintains suffering[6,7]. Intriguingly, patients seem to persist in failed attempts to solve pain despite very little belief that a solution exists. This would especially be true among those patients who perceive their pain as highly threatening[19].

As yet, it is not completely clear why some patients persist in attempts to solve pain despite its ineffectiveness or despite its negative consequences. One reason may be that patients believe their pain is a signal of physical harm that has to be resolved[9]. Such a biomedical view on pain is dominant in post-industrial societies, both in lay people[20] and health care professionals[21]. According to this view, the experience of pain is reduced to objective harm in the body, and the impact of other variables, such as beliefs about pain or the way of coping with pain, is ignored. A biomedical view upon pain however cannot explain pain for which no clear biomedical cause can be found and may hinder recovery and augment the risk for long-term disability[20,22]. It is indeed assumed that the biomedical belief that movements may cause injury will narrow attention upon the pain and cues of harm, may lead to an eventual avoidance of movements that are expected to hurt and end in more physical and emotional complaints[23,24]. However, there is accumulating evidence that it is not pain itself and the beliefs that are associated

with it, but the extent to what pain interferes with daily life that mainly triggers and motivates patients to seek care and aim for pain control (Crombez, Eccleston, Van Damme, Vlaeyen & Karoly, in press). In their review on coping with pain, Van Damme, Crombez and Eccleston[9] describe a motivational view in which coping with pain is recast as the pursuit of valued activities and life goals. As such, they suggest a second reason of why some patients persist in attempts to solve or control their pain. Simply put, any attempt to control pain may emerge in order to be able to do other daily activities again. Peter, for example, ended up in a pattern of headache flare-ups that consequently triggered him to medication overuse. When asked about his behavior, he answered: “I know it’s a bad thing to overuse my medication, but I have no other option, I have a job to do and I have standards to meet”. Whenever his headache tended to worsen, he declared to be in desperate need for his medication, which enabled him to go on at work. Conversely, only when he had less work, he agreed to withdraw from his medication. Equally, it has been found that patients with MOH, although characterized by a worsening of headache and reduced quality of life[25,26,27], seem to have equal patterns of disability compared to patients with episodic migraine without overuse. Although medication overuse seems to have its costs, it also seems to enable patients to retain functioning and achieve valuable goals[28]. Mary deals with quite the same issues. Her numerous doctor visits, her consultations at the multidisciplinary pain clinic all point at the same direction: she is highly motivated to get rid of her pain. After repetitive failures, she still hoped for a definite solution for her pain which could enable her to go on with her life. Her persistent search for a solution, when there is none available, may only lead to more frustration, distress and disability[8]. She has the belief that pain has to be

resolved in order to resume daily life and valuable goals.

Is it bad to stimulate active attempts to control pain in those patients? Definitely not. However, the above evidence suggests that the promotion of pain control as the sole coping strategy may have its dangers, at least in some situations. We also explored different reasons of why some patients are exclusively focused upon pain control, in spite of some serious costs. Patients may be guided by the belief that pain is caused by harm. Fighting physical harm is then the most obvious solution in order to prevent more disability. Or, patients may be motivated to get rid of or to control their pain because it interferes with the pursuit of valuable activities and life goals.

Is there a way out? Is there another option to cope with pain? In the context of ageing, the Dual Process Model[14] has pointed at the benefit of adjusting goals that have become unattainable, i.e. 'accommodative coping'. In the context of pain, accommodation might operate on different levels. First, when a certain goal is too ambitious because of pain, patients might need to adjust or disengage from this goal and reengage in other valuable goals that are less affected by pain[9]. Second, when the goal to control pain dominates life and leads to obvious costs or is at the expense of other goals, patients might need to give up the goal of pain relief or at least their exclusive focus upon it[8]. The case of Peter illustrates both levels. On the one hand, his goal of meeting his standards at work may seem overambitious and may even trigger headache episodes and subsequent patterns of medication overuse. He might need to disengage and reformulate achievable goals concerning his work. His goal of pain control, on the other hand, leads to some obvious costs and he might need to find other ways to cope with his headache, besides intake of medication. Mary deals with persisting pain and

attempts to resolve her pain problem have repeatedly failed. Her unsuccessful search for a solution for her pain chronically dominates her life at the cost of other important goals. She might need to give up the goal of complete pain relief and try to function, despite the pain. Accommodation, in this way, shares important similarities with the concept of acceptance, which has been defined as: ‘‘. . . a willingness to experience continuing pain without needing to reduce, avoid or otherwise change it’’[29]. It has already been extensively shown that acceptance reduces the negative effects of pain on mental and physical well-being[30,31].

4. Clinical implications

A motivational re-analysis of coping with pain points to the need of being cautious in promoting strategies exclusively aimed at pain relief in pain patients. Pharmacological, physical and surgical methods are frequently employed in pain treatment. Those treatments are often solely focused upon pain relief and aim a return at pre-pain functioning. However, we have argued that an exclusive focus on pain control may hinder adaptation to pain and may, paradoxically, increase frustration and limitations due to pain. This would particularly be the case in situations where there is no definite solution to pain and the search for pain control dominates life at the expense of other goals. In those situations, interventions aimed at an improvement of functioning instead of the relief of pain may be more effective. Cognitive behavior therapies for people with chronic pain, for example, involve techniques and strategies that are intended to change negative beliefs or feelings about pain and to promote positivism and functioning despite the pain[32]. Also, recent advances in acceptance-based treatments may be valuable in disengaging from the dominant pursuit of pain relief, and strengthening the ability to live a valuable life in the presence of pain[29]. Of course, such techniques may be used in complement with

standard medical care.

By this, we call for a more individualized approach in treating pain patients. This involves a close collaboration between different disciplines. Initially, the most important task may be for physicians themselves. Based upon medical examination and medical history taking, they are best suited in assessing the feasibility of certain treatment options for patients. To some patients, it will be sufficient to apply standard medical treatment and to offer clear education about their condition. This might, for instance, be important in overcoming a triggering of pain and a relapse into coping strategies that come along with serious costs on the long term, such as inadequate medication use. Physicians should be aware of those factors that augment the negative impact of a condition, such as feelings of frustration, helplessness and stress, and even anxiety and depression. Such feelings may especially arise when patients have become stuck in ineffective problem solving to, often uncontrollable, pain. Those patients may need more intensive counseling besides standard treatment by, for instance, inclusion in multidisciplinary pain programs.

5. Conclusion

Most treatments are exclusively focused upon the pursuit of pain relief. In this paper, we doubt the effectiveness of pain control treatment in some situations. This is especially true in situations where there is no definite solution to pain, or in treatable cases where pain control strategies have long term negative consequences. In some patients, active attempts to control pain may be fueled by the motivation of pursuing valuable goals that are blocked by pain. For clinical practice, it will be important to be aware of ineffective coping with pain leading to an increased amount of costs on the long term. Those patients might need complementary help to decrease limitations due to pain and to increase valuable functioning despite the pain. It is then

recommended for physicians to refer to paramedical care, such as psychologists and physiotherapists. Psychological help may be necessary to help patients in recognizing and overcoming psychosocial problems and maladaptive coping strategies that may negatively affect their pain. Often (e.g., in multidisciplinary pain programs), this is combined with physiotherapy directed at identifying and minimizing physical barriers in revalidation. In suspicion of serious psychological disorders, such as clinical depression or anxiety disorders, or other psychopathology, a physician may do well in asking supplementary psychiatric and/or psychological advice.

6. References

(1) Jensen MP, Karoly P. Control beliefs, coping efforts, and adjustment to chronic pain. J Consult Clin Psychol. 1991; 59:431-438.

(2) Buckelew SP, Parker JC, Keefe FJ, Deuser WE, Crews TM, et al. Self-efficacy and pain behavior among subjects with fibromyalgia. Pain. 1994; 59:377-384.

(3) Overmier JB, Seligman MEP. Effects of inescapable shock upon subsequent escape and avoidance learning. J Comp Physiol Psychol. 1967; 63:23-33.

(4) Nicassio PM, Schuman C, Radojevic V, Weisman MH. Helplessness as a mediator of health status in fibromyalgia. Cognit Ther Res. 1999; 23:181-196.

(5) Koleck M, Mazaux JM, Rascle N, Bruchon-Schweitzer M. Psycho-social factors and coping strategies as predictors of chronic evolution and quality of life in patients with low back pain: A prospective study. Eur J Pain. 2006; 10:1-11.

(6) Crombez G, Eccleston C, De Vlieger P, Van Damme, S, De Clercq, A. 2008a. Is it better to have controlled and lost than never to have controlled at all? An experimental investigation of control over pain. Pain. 2008;137:631-639.

(7) Crombez G, Eccleston C, Van Hamme G, De Vlieger P. Attempting to solve the problem of pain: a questionnaire study in acute and chronic pain patients. Pain. 2008;137:556-563.

(8) Eccleston C, Crombez G. Worry and chronic pain: a misdirected problem solving model. Pain. 2007;132:233-236.

(9) Van Damme S, Crombez G, Eccleston C. Coping with pain: a motivational perspective. Pain. 2008;139,1-4.

(10) Lazarus RS, Folkman S. Stress, appraisal and coping. New York: Springer Publishing Company. 1984.

(11) Skinner EA, Edge K, Altman J, Sherwood H. Searching for the structure of coping: a review and critique of category systems for classifying ways of coping. Psychol Bull. 2003;129:269-316.

(12) Eccleston C, Crombez G. Pain demands attention: A cognitive-affective model of the interruptive function of pain. Psychol Bull. 1999;125:356-366.

(13) Karoly P, Ruehlman LS. Psychosocial aspects of pain-related life task interference: an exploratory analysis in a general population sample. Pain Med. 2007; 8:563-572.

(14) Brandtstädter J, Rothermund K. The life-course dynamics of goal pursuit and goal adjustment: a two-process framework. Dev Rev. 2002;22:117-150.

(15) Hasenbring MI, Verbunt JA. Fear-avoidance and endurance-related responses to pain: new models of behavior and their consequences for clinical practice. Clin J Pain. 2010;26:747-753.

(16) Hasenbring M, Marienfield G, Kuhlendahl D, Soyka D. Risk factors of chronicity in lumbar disc patients: a prospective investigation of biologic, psychologic, and social predictors of therapy outcome. Spine. 1994;19:2759-2765.

(17) Hasenbring MI, Plaas H, Fishbein B, Willburger R. The relationship between activity and pain in patients 6 months after lumbar disc surgery: Do pain-related coping modes act as moderator variables? Eur J Pain. 2006;10:701-709.

(18) Keefe FJ, Rumble ME, Scipio CD, Giordano LA, Perri LM. Psychological aspects of persistent pain: current state of the science. J Pain. 2004;5:195-211.

(19) De Vlieger P, Van den Bussche E, Eccleston C, Crombez G. Finding a solution to the problem of pain: conceptual formulation and the development of the pain solutions questionnaire (PaSol). Pain. 2006;123:285-293.

(20) Goubert L, Crombez G, De Bourdheaudhuij I. Low back pain, disability and back pain myths in a community sample: prevalence and interrelationships. Eur J Pain. 2004;8:385-394.

(21) Coudeyre E, Rannou F, Tubach F, Baron G, Coriat F, et al. General practitioners' fear-avoidance beliefs influence their management of patients with low back pain. Pain. 2006;124:330-337.

(22) Goubert L, Crombez G, Danneels L. The reluctance to generalize corrective experiences in chronic low back pain patients: a questionnaire study of dysfunctional cognitions. Behav. Res Ther. 2005;43:1055-1067.

(23) Vlaeyen JWS, Linton SJ. Fear-avoidance and its consequences in chronic musculoskeletal pain: a state of the art. Pain. 2000;85:317-332.

(24) Leeuw M, Goossens MEJB, Linton SJ, Crombez G, Boersma K, et al. The fear-avoidance model of musculoskeletal pain: current state of scientific evidence. Behav Med. 2007;30:77-94.

(25) Silberstein SD. Clinical practice guidelines. Cephalalgia 2005;25:765-766.

(26) Wiendels NJ, van Haestregt A, Neven AK, Spinhoven P, Zitman FG, et al. Chronic frequent headache in the general population: comorbidity and quality of life. Cephalalgia 2006;26:1443-1450.

(27) Bigal ME, Lipton RB. Excessive acute migraine medication use and migraine progression. Neurology 2008;71:1821-1828.

(28) Lauwerier E, Paemeleire K, Van Damme S, Goubert L, Crombez G. Medication use in patients with episodic migraine and medication-overuse headache: the role of problem-solving and attitudes about pain medication. Pain 2011; 152:1334-1339.

(29) McCracken LM, Vowles KE, Eccleston C. Acceptance of chronic pain: component analysis and a revised assessment method. Pain 2004;107:159-166.

(30) Viane I, Crombez G, Eccleston C, Poppe C., Devulder J., et al. Acceptance of pain is an independent predictor of mental well-being in patients with chronic pain: empirical evidence and reappraisal. Pain. 2003;106:65-72.

(31) McCracken LM, Eccleston C. A prospective study of acceptance of pain and patient functioning with chronic pain. Pain. 2005;118:164-169.

(32) Morley S, Eccleston C, Williams, A C de C. Systematic review and meta-analysis of randomized controlled trials of cognitive behaviour therapy for chronic pain in adults, excluding headache. Pain, 1999; 80: 1-13.