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RESEARCH ARTICLE

CATASTROPHIZING- QUALITY OF LIFE AND PAIN

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ABSTRACT

The International Association for the Study of Pain (IASP) defines chronic pain as: "Persistent pain, which can be continuous or recurring, whose duration and intensity are sufficient to adversely affect the well-being of a patient, their level of functionality and quality of life". Chronic pain is a global health problem, affecting between 15-25% of adult population, even increasing up to 50% for geriatric population over 65 years old. In the 1960s, the term "catastrophizing" was used to describe a mal-adaptive cognitive style employed by patients with anxiety and depressive disorders, for example, Beck (1967) described the catastrophe as a "cognitive distortion" that could contribute to the development or exacerbation of depression symptoms. Sullivan *et al*. in 1995developed the Pain catastrophizing Scale (PCS) in effort to obtain a comprehensive assessment instrument that would cover different perspectives. The catastrophizing is currently defined as: An irrational negative mental forecast of future events, during the actual or anticipated painful experience. Individuals vary the way to express or display experience of pain. When people express pain through multiple behaviors, they are likely to attract the attention of other people in their social environment. It is only through clear communication of distress that others in your social setting will be able to determine that assistance is necessary. Cognitive restructuring is the typical strategy to reduce dysfunctional thinking. This approach centers on identifying automatic and maladaptive cognitions and replacing them with more rational and realistic thoughts (Beck, 1995). As a result of catastrophic patients' observation, it is noted that exaggerated signs of pain they express may result in an unstable, but sustainable balance between fulfill the support needs and the increasing in pain-related distress. Recent neuroimaging studies have shown that brain areas responsible for attention modulation are more likely to be activated in catastrophic pain experiences. Creating strategies and considering these aspects in the management of patients with chronic pain is responsibility of professionals in order to provide optimal treatment and understanding.

INTRODUCTION

Chronic pain is a global health problem, affecting between 15-25% of adult population, even increasing up to 50% for the geriatric population over 65 years old. Pain affects bio-psycho-social environment of patients. Over the recent years have been significant advances in the neurophysiology of pain comprehension, diagnostic and therapeutic procedures are more available, so is necessary to implement multidisciplinary treatments, but despite this, accomplish complete resolution of symptoms, continues to be a challenge for healthcare professionals. Unfortunately, people in chronic pain will be living with some level of pain itself, regardless the single or multiple treatments they receive.

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In addition, there are significant obstacles to reach an effective pain relief, with consequences in physiological, psychological, social and economic aspects; as a result, chronic pain could increase morbidity and mortality. Chronic pain lasts longer than 3 months or beyond the expected resolution period. Furthermore, the intensity of pain is not always proportional to the damage suffered, and symptoms may persist in the long term. The International Association for the Study of Pain (IASP) defines chronic pain as "Persistent pain, which can be continuous or recurring, whose duration and intensity are sufficient to adversely affect the well-being of a patient, their level of functionality and quality of life". By referring about chronic pain, can be negative social responses such as anguish, despair, abandonment, frustration, anger; this imbalance between the expression of pain and the cause, can be translated with an increase in interpersonal conflict, social rejection and depression. (Thorn *et al*., 2004; Cano, 2004). References to the term catastrophizing go back to the beginning of this century.

In the 1960s, the term catastrophizing was used to describe the excessively negative thinking of individuals with depression. Beck (1967) described catastrophizing as a "cognitive distortion" could contribute to the development or exacerbation of depression symptoms. The term catastrophizing has been used as the mental ensemble of individuals suffering from various anxiety disorders (Beck and Emery, 1985). There are indications that catastrophic thinking can serve the coping functions that are useful in the daily lives of certain individuals. But in situations where people develop chronic pain conditions this is where this thinking becomes a problem. Chaves and Brown (1978) found that people who have catastrophic thoughts were particularly prone to experiencing high levels of distress. They are individuals who tend to magnify or exaggerate the value of the threat or the severity of pain sensations. Nicholas Spanos and colleagues at Carleton University were also interested in the psychological factors that influenced the experience of pain, they found that catastrophic individuals are those who describe a thought content reflecting worry, fear, and the inability to divert attention away from pain. Similar findings of Chaves and Brown in 1978, indicate that individuals who participated in catastrophic thinking reported the highest levels of pain. Rosenstiel and Keefe, were interested in the pain-related thoughts experienced by individuals with chronic pain, they developed the Coping Strategies Questionnaire (CSQ), which consists of 7 coping subscales, including a catastrophizing subscale.

The items on the catastrophizing subscale reflect elements of helplessness and pessimism in relation to one’s ability to deal with the pain experience. Extensive research conducted by Keefe and colleagues have shown that individuals scored high on the catastrophizing scale of the CSQ experienced higher levels of physical and emotional distress associated with their pain condition. Sullivan *et al*., 1995, developed the Pain Catastrophizing Scale (PCS) in intent to develop a comprehensive evaluation instrument that would encompass the different perspectives on catastrophizing that had been discussed by previous investigators. PCS is currently one of the most widely used measures of catastrophic pain-related thinking. It has been translated into several languages and has been incorporated into the evaluation protocol of pain clinics and rehabilitation centers throughout North America and Europe. The PCS takes advantage of three dimensions of the catastrophic: rumination ("I can't stop thinking about how much it hurts"), magnification ("I'm worried about something serious might happen"), and helplessness ("It's horrible"). Catastrophizing is currently defined as: An exaggerated negative mind set carried out during actual or anticipated painful experience "(Sullivan *et al*., 2001).

Several theoretical models of catastrophizing have been presented in order to increase understanding of how catastrophic thinking might influence pain (Sullivan *et al*., 2001). Theories include a Beckian model of cognitive errors in which catastrophizing is compared to dysfunctional thinking presented in depressive patients, an evaluation model characterized by exaggerated perception of the threat value of pain sensations, and a coping model in which it is described with a method to obtain social support. Catastrophizing is considereda process that results in greater attention to pain, with perceptions of threat and expectations of presenting intense pain, therefore, interventions must involve attempts to change the attention focus of catastrophic thinking, such as strategies of distraction and other coping strategies; resulting in reduced attention to catastrophic thinking and pain perception (Eccleston &Crombez, 1999). Cognitive restructuring is the typical strategy to reduce dysfunctional thinking. This approach focuses on identifying irrational and maladaptive cognitions and replacing them with more realistic thoughts (Beck, 1995). Individuals differ in the way they express or display their experience of pain. Some people experience high levels of pain but, show little external evidence that they are suffering. Others are very expressive of their pain experience. When people express their pain through various behaviors, they are likely to attract the attention of other people in their social environment. It is only through clear communication of distress that others in your social setting will be able to determine that assistance is necessary. Sullivan *et al*. (2001) suggested that patients considered catastrophic may have an exaggerated expression of pain in order to maximize care, or just be their way of asking for help and / or to obtain empathic responses from those who make up their social environment. Unfortunately, by reaching these social goals, catastrophizing can inadvertently make their pain experience more aversive. The increasing attention to your pain and your exaggerated display of pain behavior can be "misadjusted" really contributing to the increased pain experience. Furthermore, the reinforcing responses of others can serve to trigger, maintain or reinforce the exaggerated expression of pain of the catastrophic. Exaggerated signs of pain can result in an unstable, but sustainable, balance between meeting support needs and increasing pain-related distress. Recent neuroimaging studies have shown that the brain areas responsible for attention modulation are more likely to be activated in catastrophic experiences of pain (Gracely *et al*., 2004), Seminowitz *et al*.

Artnz and colleagues (1994) reported that attention may be the primary mediator of the effects of anxiety on the experience of pain. It has been suggested that attention to pain sensations could increase sensory flow of pain signals to the brain (Eccleson & Crombez, 1999). It is possible that attention focus may represent one of the last common pathways through which many cognitive and affective variables influence the experience of pain. Ronald Melzack and colleagues at McGill University have recently proposed a "neural matrix" pain model which suggests that although pain processing by the brain is genetically specified, such processing is modified by experience. Factors that increase sensory flow of pain signals can, over time, alter central thresholds of excitability, thereby increasing sensitivity to pain.

By engaging in cognitive activity that amplifies pain signals, catastrophic central neural mechanisms can become more sensitized, producing a chronic hyperalgesic state. Neuroimaging research has shown that focusing attention on pain can activate a distributed network of brain regions, including prefrontal and parietal areas, parts of the anterior cingulate cortex, and the thalamus (Bushnell *et al*., 2004, Peyron *et al*, 2000). These findings provide neural evidence that attentional mechanisms could explain, at least in part, the relationship between catastrophic thinking and the experience of pain (Seminowicz and Davis, 2006). It is becoming increasingly clear that catastrophic thinking about pain can be a risk factor for chronicity. In other words, catastrophizing not only contributes to increased levels of pain and emotional distress, but also increases the likelihood that the pain condition will persist for an extended period of time.

Conclusion

Findings highlighting a relationship between catastrophic thinking and attention to pain symptoms suggest that interventions aimed at minimizing catastrophic thinking should be incorporated into the multidisciplinary treatment of patients with chronic pain, this strategies result in a decrease in attention to pain symptoms. Therefore, currently, the clinical utility in the evaluation of catastrophic thinking through reproducible questionnaires, as well as validated ones, should be a routine method in all patients with chronic pain, understanding and reinforcing the idea of a bio-psycho-social evaluation of all patients with chronic pain. Currently, the associations that exist between catastrophizing with the results related to pain management and quality of life are clear, which is why it is necessary to prepare and understand strategies for the optimal, effective and timely study for pain control.

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