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Social Anxiety, Pain Catastrophizing and Return-To-Work Self-Efficacy in chronic pain: a cross-sectional study

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HIGHLIGHTS

- Return to work after pain-related sick-leave includes social interaction.
- Social anxiety in chronic pain might hinder the interpersonal aspects of return-to-work.
- Social anxiety predicts perceived ability to communicate pain-related needs.
- Social anxiety could be important in the rehabilitation process in chronic pain.

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ABSTRACT

Background and aims: Returning to work after periods of sick-leave due to chronic pain problems, involve a number of situations of interpersonal nature (e.g. meeting supervisors/insurance companies to adapt work setting to present functional level, receive help from colleagues, express pain, etc.). Since chronic pain has shown co-morbidity with social anxiety, it is of interest to investigate restraining factors in return to work among chronic pain sufferers from a social perspective. Catastrophizing is identified in both pain and social anxiety as a mechanism that might fuel a continuous bias in how situations are perceived (threat) and by hindering the development of functional behavior strategies. The presence of social anxiety in chronic pain patients might be seen as a stressor that limits the individuals' ability to effectively communicate pain-related needs to colleagues, and/or employers and therefore act as a hindering factor in return-to-work. Hence, the overall aim of this study was to examine the relationship between social anxiety, pain catastrophizing, and perceived ability to communicate pain-related needs to the work environment in a clinical pain population.
Methods: The study employed a cross-sectional design and involved 247 individuals with chronic pain (82.3% women; M_{age} = 44 years). Measures included the Pain catastrophizing Scale, the Social Phobia Screening Questionnaire and the communication of pain-related needs-subscale of the Return-To-Work Self-efficacy Questionnaire. Analyzes were run to examine whether social anxiety moderated the relation between pain catastrophizing, and perceived ability to communicate pain-related needs while controlling for pain severity/interference and sick leave.
Results: Social anxiety and pain catastrophizing correlated positively with each other and negatively with perceived ability to communicate pain-related needs. No support was obtained for a moderating effect of social anxiety. However, social anxiety and pain interference were each significant predictors of the individual's confidence in being able to communicate pain-related needs to the work environment.
Conclusions: In the context of pain and work-related communication, symptoms of social anxiety was identified as being of similar importance to the outcome as pain interference, while pain severity was not associated with the individual's confidence in communicating one's pain-related needs.
Implications: The results implicate that fears relating to pain-related social situations at work might be central in the process of return-to-work and rehabilitation in chronic pain.

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With about one fifth of the European population reporting chronic pain [1,2], this results in considerable societal costs for sick leave, loss of work force and treatment interventions [3]. In Sweden, musculoskeletal pain constitutes a major cause for sick leave and early retirement [4]. Apart from pain-related functional limitations, individuals with persistent pain commonly report co-morbid emotional problems such as anxiety and depression [5]. Individuals with persistent pain commonly report co-morbid emotional problems such as anxiety and depression which creates an extra burden both for the suffering individual and for the society in terms of extra costs due to disability and treatment failures [5]. There is an urgent need to understand mechanisms involved in co-morbid pain and emotional disorders, and in particular obstacles for returning to work among individuals with these problems.

From a biopsychosocial perspective, both disability and return-to-work are explained by complex interactions among a variety of factors, including pain, physical and emotional impairments, and social disability [6–8]. Not only do such factors contribute to the aetiology of pain, but they also have reciprocal effects on one another that may worsen and perpetuate each other and the intensity and duration of disability [6,9]. The biopsychosocial model of disability in pain has been criticized for its over-emphasis of the 'psycho'—part of the biopsychosocial theory and for under-emphasizing social aspects [10]. Since then, it has been noted that the area is now characterized by a growing emphasis on social factors within occupational disability [11].

One of the best empirically supported pain models describing the mechanisms in persistent musculoskeletal pain is the Fear-Avoidance model (FA) [12,13]. According to the FA model, pain catastrophizing leading to pain-related fear and avoidance is a key-concept in the maintenance of pain. *Pain catastrophizing*, in terms of negative cognitive distortions regarding the meaning of pain and its consequences, are known to predict disability, pain and illness behaviour over time [14,15]. Lately it has been suggested that catastrophizing represents a behavior pattern of repetitive negative thinking [16], working as a maintaining factor with the function to down regulate unpleasant inner experiences. Such patterns may be described, not just in pain but also in several emotional disorders such as in anxiety (worry) and in depression (rumination) [17].

An anxiety disorder that has shown co-morbidity with chronic pain is *social anxiety disorder* with the central fear of being negatively evaluated by others in social situations [18]. Social triggers are described to activate a threat response in terms of physiological and emotional arousal, increases self-focused attention and catastrophic assumptions which commonly leads to escape- and avoidance-behaviors of overt social situations [19]. Since many situations that people with prolonged pain are involved in, are of interpersonal character (e.g. ask for/receive help due to functional limitations, communicate pain), it is motivated to examine social anxiety in chronic pain patients in the context of return to work and prolonged sick-leave. Catastrophizing and overt avoidance seem to be central components to both conditions.

In contrast to catastrophizing, a buffering factor associated with return to work and sick leave in chronic pain, is an individual's self-efficacy [20]. Self-efficacy is a concept characterized by an active involvement by the individual and an overarching belief that one has the ability to control the situation. High levels of self-efficacy are associated with higher functional level among chronic pain patients [21]. A specific aspect of self-efficacy is termed *return-to-work-self-efficacy*, which refers to an individual's confidence in his/her ability to meet work-demands, adapt work-tasks to pain and to communicate pain-related needs. Low levels of return-to-work-self-efficacy have been linked to increased risk of prolonged sick-leave [22]. Difficulties in communicating ones needs are typical also in social anxiety since this behavior usually activates catastrophic thinking regarding social expectations from others. In chronic pain patients, with high levels of pain catastrophizing and symptoms of social anxiety, the summarized effect of these factors might limit the individual's ability to effectively communicate pain-related needs to a colleague, or employer, therefore hindering a functional work-setting. Over time, such obstacles could be risk-factors for prolonged sick-leave and failures of return-to-work among individuals with chronic pain.

Based on the knowledge in high comorbidity between emotional problems and chronic pain, and shared characteristics in terms of catastrophic thinking, this poses the question whether social anxiety might moderate the link between catastrophizing and perceived ability to communicate pain-related needs in a chronic pain population.

1. Aim

The current study sought to examine social anxiety in chronic pain by focusing on aspects of these concepts that from a theoretical point of view might constitute shared entities. By focusing on catastrophizing and self-efficacy related to one's ability to communicate pain-related needs, two factors central to both pain and social anxiety were examined in the analyzes. In addition the study examined if social anxiety could moderate the association between pain catastrophizing and self-efficacy regarding the communication of pain-related needs.

2. Methods

2.1. Design

The current study is a cross-sectional study conducted as a survey among patients at a pain clinic.

2.2. Participants and setting

The study is based on self-selection. Respondents were 247 individuals with different forms of chronic pain, such as musculoskeletal pain (back, neck), generalized pain (e.g. fibromyalgia), neuropathic pain, specific pain (orofacial pain, genital pain), referred to a pain clinic in Sweden. .195 (82.3%) were women. Participants were 20–64 years old ($M = 44.4$). About half of the sample (50%) had a college-education and 28% had a university-degree which is fairly representative for the Swedish population (45% college-education, 34% university degree), [23]. The study is part of the Social-Anxiety-Pain (SAP) project at Örebro University. The SAP project is run in collaboration with Uppsala Pain Clinic, which is connected, to the National Register for Pain Rehabilitation (NRS) [24]. The NRS collects and analyses data from different pain rehabilitation centers in Sweden in order enable systematic quality assurance of the specialist care for complex chronic pain. The NRS is also used for research. The SAP project started in 2011 with the aim of examining comorbidity between chronic pain and social anxiety. The Uppsala pain clinic receives about 1000 referrals per year, but far from all of them enter the treatment program that was the starting point for the current study. Approximately 400 patients receive treatment interventions each year at the clinic and were invited to participate in the current study during the period when data was collected (2011-2012).

2.3. Measures

The current study includes data on social anxiety, pain catastrophizing, return-to-work-self-efficacy, pain severity, pain interference, and sick- leave. From the NRS the measures of pain-catastrophizing, pain-severity and pain-interference were used.