

Investigating the Relationship between Anxiety and Pain Catastrophizing in People with Chronic Low Back Pain

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ABSTRACT: The aim of the present study was to investigate the relationship between anxiety and pain catastrophizing in women and men with chronic low back pain who referred Tehran Milad Hospital's pain clinic. In this cross sectional study, 130 subjects (50 males and 80 females), with the diagnosis of chronic pain disorder referring to the Tehran Milad Hospital's pain clinic were studied from winter of 2011 to spring of 2012. Data was collected using Pain Anxiety Symptoms Scale (PASS-20) (short version) and pain catastrophizing scale (PCS). Data was analyzed using t-test and Pearson correlation coefficient. Results showed a significant positive correlation between anxiety and pain catastrophizing. There were significant differences in anxiety between men and women. Moreover, there was significant difference in the pain catastrophizing between men and women. According to the results, therapists may use non-medication treatments such as psychological therapies in order to reduce the anxiety accompanied with pain and to better control of the pain.

Keywords: Anxiety, Pain Catastrophizing, Chronic Low Back Pain

INTRODUCTION

"Pain" is a complex combination of physiological, psychological, social and cultural variables and is probably the most common psychological pressure we face and one of the most prevalent complaints among patients.

In addition to pain and physical disability, depression is a complication that has involved a significant number of patients suffering from chronic pain.

The prevalence of anxiety in the patients with chronic pain is considerably higher than mean public population (Romano et al., 2003). However; one should know that all individuals with chronic pain do not show psychological problems (Blyth et al., 2001). Based on the research, patients with chronic pain, who are identical in appearance with clinical symptoms and diagnosis, show different degrees of psychological dysfunction; so, it seems that pain alone is not sufficient to explain the anxiety in these patients. Chronic pain is a pain which is passed more than 6 months, based on the medical diagnosis, from its initiation and continued within the three last month for everyday (Rudy et al., 1989).

Patients with chronic pain often have negative and maladaptive appraisals about their situation and their ability to control the pain.

Therefore they are willing to assess their pain as a threat and as a result resort to emotion- focused coping

(Smith et al., 1992). Another variable examined in this study was pain catastrophizing. Catastrophizing is a negative cognitive-emotional process which includes such components as magnification, helplessness and rumination (Sullivan et al., 2001). According to the results of conducted research, it seems that catastrophizing is one of the major predictors of the pain therapeutically results and cognitive process and negative thoughts like pain catastrophizing are considered as one of the cognitive factors correlated with fear of pain and its experience (Eriksen, 2003). In addition, those who catastrophize the pain expect more pain than those who do not catastrophize it. Likewise, according to the results of research by Sullivan et al in 2001 (Sullivan et al., 2001), it was revealed that women compared with men, show higher rate of pain catastrophizing. Furthermore, based on the similar results of the majority of the studies that have been done, musculoskeletal and vascular pain disorders are more common in women and it seems that women are more likely to visit a doctor and report more pain symptoms and also express more emotional way of responding about pain than men (Hurley et al., 2008).

This study was undertaken to investigate the relationship between anxiety and catastrophizing in people with chronic pain and to compare the anxiety and pain catastrophizing in men and women with chronic pain, so that in the event of any significant relationship in this

respect, it may provide therapeutically strategies in our society.

METHODS AND MATERIALS

This cross sectional study was implemented in the framework of ex-post factor search. The study population included all patients suffering chronic low back pain referred to Milad Hospital in Tehran. The sample consisted of 80 females and 50 males with chronic low back pain and the age range of 26 to 60 years old that referred to the pain clinic from the winter of 2011 to spring 2012.

First off, they were examined by pain specialist physicians and were introduced by the diagnosis of chronic low back pain to the researchers who were present at the same location. Criteria for a chronic pain were the feeling of pain for at least three months after the first lumbago. Patients with signs and injuries of central nervous system, progressive motor impairment, sphincter injuries resulting from neurological causes and urinary tract infection were excluded from the study. Purposive and available sampling methods were employed.

The data was collected in this study using two questionnaires. First, subjects filled a questionnaire of personal information included gender, age and duration of suffering. Then, they completed accurately the other questionnaires under the care and training of researchers. After completing the questionnaires by patients who were willing to cooperate, the data obtained were analyzed using the software. (A) Pain Anxiety Symptoms Scale (PASS-20) (short version): the shortened form of this scale whose original form has been developed by McCracken et al. consists of 20 articles and has been validated. The questionnaire's material is scored based on 6-point Likert scale (0-5). Items 8 and 16 are scored inversely. Obtaining

higher score indicates greater pain-induced anxiety. Cronbach alpha provided is 0.92.

In terms of the psychometric properties, this questionnaire is acceptable, and has been used in several studies. (B) Pain catastrophizing scale (PCS): The given scale consists of 13 articles focused on different aspects of the pain catastrophizing. Scoring is done using Likert method. This scale enjoys acceptable reliability and validity. Reliability and validity of this scale have been studied in Iran Shahed University. Alpha coefficient in the subscales of rumination, magnification and helplessness, are respectively, 87%, 60% and 79%. Alpha coefficient for the total scale of the pain catastrophizing is 87%.

RESULTS

This study was conducted on 130 patients with chronic low back pain. 50 subjects equivalent to 38.46% of the participants were male and 80 subjects equivalent to 61.54% of the subjects were female. Mean and standard deviation of subjects' score on the anxiety scale were 23.7 and 7.02 and mean and standard deviation of subjects' score on the pain catastrophizing scale were 43.15 and 5.02, respectively. Moreover, the level of anxiety and pain catastrophizing in patients with chronic pain was presented in frequency percentage in a way that 63.8% of patients were suffering from anxiety disorder and 78.4% of them catastrophized their pain.

The obtained results showed that the mean anxiety score of women was 27.5 and mean anxiety score of men was 17.8, that this difference was statistically significant. The mean catastrophizing rate was 51.6 for women and 32.5 for men, so catastrophizing levels were significantly higher in women than men. On the other hand, in patients with chronic low back pain a significant correlation between anxiety and catastrophizing was observed (Table 1, 2, and 3).

Table 1: Responders' distribution according to stress level

Stress Level	Persons	Percentage
High	112	70
Intermediate	35	21.8
Low	13	8.2
Total	160	100

Table 2: Responders' distribution according to Psychosomatic Disorders Symptoms level (PDS)

PDS Level	Persons	Percentage
High	118	73.8
Intermediate	30	18.7
Low	12	7.6
Total	160	100

Table 3: Responders' Percentage Distribution According to Psychosomatic Disorders Symptoms

Psychosomatic Disorders Symptoms	With to Psychosomatic Disorders Symptoms				Without Disruption	Total
	High	Intermediate	Low	Total		
Shoulder and back pain	66.2	20.6	11.3	98.1	1.9	100
migraine headaches	55.6	19.3	9.3	87.2	15.8	100
knee and elbow joint pain	53.1	19.3	10	82.4	17.6	100
Arthritis	35.8	30.6	16.3	82.5	17.5	100
loss of appetite and anorexia	29.3	39.3	16.8	85.4	14.6	100
Ulcers	23.7	30.6	19.3	73.8	26.4	100
intestinal disorder	13.1	15	10.6	38.7	61.3	100
Constipation	21.2	36.8	26.8	84.8	84.8	100
Rheumatism	11.8	6.8	5	23.6	76.4	100
Nausea and vomiting	10	18.1	3.4	32.4	67.6	100
Diarrhea	18.7	7.5	6.8	33	67	100
Hypertension	20.6	12.5	5.6	38.7	61.3	100
Chest pain	19.3	13.7	5	38	62	100

DISCUSSION

The purpose of the present study was to investigate the relationship between anxiety and pain catastrophizing in men and women with chronic low back pain and also the levels of anxiety and pain catastrophizing and to compare these variables in men and women with chronic pain.

According to the results of previous research conducted, psychological disorder such as anxiety is common among individuals with pain disorders and there is a reinforcing mutual relationship between anxiety and chronic pain. Moreover, according to the results of similar studies, anxiety and somatization in women is higher than men and antisocial behaviors and impulsivity is more common in men.

Based on the results of the present study, there is a significant difference between the anxiety in women compared with men, that these results are consistent with the results of similar studies (Sadoc 2003; Tsang et al., 2008) and is not consistent with the research Sheffer et al. (2002) in which there was no significant difference between the levels of anxiety in women and men with chronic pain.

It seems that gender difference in anxiety of patients with chronic pain is due to differences in pain threshold and tolerance level, psychosocial factors, and fear of movement and pain (Vlaeven et al., 2000).

According to the results of Dougher et al. (1987), women have a lower pain threshold than men.

Pain catastrophizing becomes the predictor of the disability after the interventions of pain severity control, anxiety and depression in chronic pain patients and people with chronic pain have more of a catastrophizing than the common individuals (Sullivan et al., 2001).

the findings of the present study shows a significant difference in the catastrophizing rate in women and men which is consistent with similar studies by Sullivan and Thron in 2001 and Edward in 2004 (Edward et al., 2004). No study has been reported which is inconsistent with these findings. Based on these results, there is a significant relationship between anxiety and pain catastrophizing in patients with chronic pain, which support the results of the research by Sullivan (2001) and Vowles (2007). Also Buenaver et al. (2008). Regarding the relevance of catastrophizing with pain experience and anxiety posed that catastrophizing led an individual to have selective attention toward some stimuli and cannot overcome his/her pain or deposits it to his/her unconsciousness. These individuals have great mental engagement with pain and with regard to the anticipation of pain; they upset or disrupt their physical and cognitive performance. It seems that catastrophizing is effective as a cognitive error in aggravation of anxiety and pain-induced disability that further research is needed. The study limitations include the sample selection of a clinic and the possibility of bias in the clinical diagnoses and also the patient's age (higher number of adult and old patients and lower younger patients).

The results of this study can be effective and helpful in chronic low back pain behavioral therapeutics (CBT) programs, in which pain coping skills and non-adaptive coping strategies such as catastrophizing are taught and help to improve the quality of life and prevent losses due to anxiety and ultimately performance loss in patients with chronic low back pain. In addition, it is suggested that, given the high rates of anxiety and pain catastrophizing in patients with pain disorder, comorbid disorders and gender difference be attended at the time of diagnosis and

interdisciplinary approach be used in the treatment of such patients.

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