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Original article

ASSESSMENT OF THE SITUATION DURING PAIN BY PATIENTS WITH CHRONIC PAIN

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ABSTRACT:

The way a person perceives and interprets the situation during pain provokes a variety of emotional and behavioral responses.

Aim: The aim of the study was to analyze the assessment of the situation during pain by patients with chronic pain.

Materials and methods: A sample of 120 patients with chronic pain was studied. Sixty-one of them had clinically manifested symptoms of depression, and fifty-nine had no depression. The patients were evaluated using the following scales: HAM-D-17, Spielberger questionnaire – STAI – form Y1 and form Y2 and VAS. A model of four situations was applied to assess the situation during pain: unique, risky, routine and situation of uncertainty.

Results: The mean age of the sample was 51.90 ±11.94. Women predominate (81.7%) over men (18.3%). The group with depression had moderate severity of depression and pain intensity and high state and trait anxiety. A majority of them (48.4%) assessed the situation during pain as a risk and/or an uncertainty. The group without depression had moderate state and trait anxiety and mild pain intensity. More than half of them (62.7%) assessed the situation as routine.

Conclusion: Depression and anxiety affect the perceived situation during pain. Assessing and understanding the specific links between them is essential for forming adaptive ways of coping with chronic pain.

Keywords: chronic pain, depression, personality and state anxiety, situations.

INTRODUCTION:

Pain is a multidimensional experience that arises due to a complex integration of sensory-discriminatory, affective-motivational and cognitive-evaluating processes, which are influenced by variety of biopsychosocial factors. Unlike acute pain, which signals tissue damage, chronic pain does not have a protective function, and it can continue after stopping the effect of the harmful agent [1]. Scientists' research proves that the maladaptive patterns of behavior support chronicity, predicting future disability and impaired psychosocial functioning [2].

Although pain is a universal phenomenon, it is perceived and experienced by people differently [3] due to the cognitive aspects of pain, determining a variety of emotional and behavioral responses to pain. The way a person perceives and interprets the situation during pain (perceived situation) affects the value (significance) that a person conveys to pain and predetermines their behavior [4]. The cognitive condition has been proven to modulate the affective-motivational component of pain [5]. The manipulation of these processes in the direction of forming adaptive psychological reactions to pain is included in the psychotherapeutic techniques applied in patients with chronic pain [6].

The assessment of situations during pain is poorly applied in clinical and research models [7]. We consider that a deep understanding of the relationships between emotional and cognitive aspects of pain would be useful for the effectiveness of psychotherapeutic interventions for reducing chronic pain disability. The aim of the study is to examine the assessment of the situation during pain by patients with chronic pain, analyzing the influence of emotions, depression and anxiety.

MATERIALS AND METHODS:

A study of 120 patients with chronic non-malignant pain of different origins hospitalized at the "St. Marina" University Hospital – Varna was carried out. The design of the study has been approved by the Ethics of Scientific Research Committee at Medical University "Prof. dr. Paraskev Stoyanov" – Varna. All patinents have signed an informed consent form. The assessment of the mental state of the patients studied was made according to the

criteria for a depressive episode of the international classification of diseases tenth revision (ICD – 10). According to the presence of a depressive episode, the total sample was divided into two groups – a group without depression (n=59) and a group with depression (n=61). For the purpose of the study, the following evaluation scales were selected: 1) Hamilton Depression Rating Scale (HAM-D-17) – for the assessment of the severity of depression. Scoring was based on the 17-item scale and scores of 0 – 7 were considered as being normal, 8 – 16 suggested mild depression, 17–23 moderate depression and scores over 24 were indicative of severe depression; 2) Spielberger questionnaire – scale (S) for the assessment of state anxiety (STAI – form Y1) and scale (Ò) for the assessment of trait anxiety (STAI – form Y2). Åach scale contains 20 statements, where a score of up to 30 was considered mild, 31 to 44 – moderate, and over 45 as severe state or trait anxiety; and 3) Visual analog scale (VAS) – for the assessment of pain intensity. Scores were recorded by making a handwritten mark on a 10-cm line, where the assessment between 1 – 3 was considered as mild pain, 4 – 6 – moderate and 7 – 10 as severe pain.

The situation during pain was assessed through the model proposed by I. Aleksandrov (2015). The question "In what situation do you place yourself when you are in pain? "was included in a semi-structured interview, with multiple choice answers for four situations: a risk situation, an uncertainty situation, a unique situation and a routine situation [8].

RESULTS:

The mean age of the sample studied (n=120) was 51.90±11.94. The distribution by sex was uneven – the proportion of women surveyed was 81,7% (n=98), and that of men was 18,3% (n=22). During the study, seven diagnostic categories were covered: chronic headache, chronic neuropathic pain, chronic visceral pain, chronic musculoskeletal pain, chronic postoperative pain, chronic post-traumatic pain and other pain. All cases of psychogenic pain refered to the latter. In the general group (n=120) 80 of the subjects studied had chronic pain referring to one diagnostic category, 33 of them had pain associated with two diagnostic categories and 7 – with three diagnostic categories.

According to the presence of clinically manifested symptoms of depression, the sample was divided into two groups: 1) a group of 59 patients with chronic pain without depression and 2) a group of 61 patients with chronic pain with depression.

The results of the distribution of the group with depression according to antidepressant treatment showed that 73,78% (n=45) of them were on supportive treatment, and 18,03% (n=11) discontinued their treatment for some reason. The remaining 8,19% (n=5) of the participants had a first depressive episode and had never taken antidepressants.

The mean values of the indicators studied (severity of depression, degree of state and trait anxiety and pain intensity) for the two groups and the presence of statistically significant differences are presented in Table 1. The distributions by frequency on the main scales were close to normal.

Table 1. Mean values of the studied indicators by group.

	Group without depression	Group with depression	Significant differences between groups (p < 0.05)
Depression severity	3,49±1,72	16,21±5,75	t = -25,976; p = ,000
Degree of state anxiety	36,27±8,77	50,23±13,89	t = -6,623; p = ,000
Degree of trait anxiety	40,17±7,85	54,69±11,74	t = -8,087; p = ,000
Pain intensity	3,8±1,91	5,82±2,73	t = -4,205; p = ,000

The most significant was the difference in the degree of severity (t) and degree of significance (p) in the indicator severity of depression, followed by state and trait anxiety and pain intensity. The group with depression was characterized by moderate severity of depression. State and trait anxiety were within the high levels for the group with depression, while in the group without depression, they were within the moderate levels. The intensity of pain in the group with depression was moderate, as opposed to the group without depression which was mild.

Table 2. Distribution by group according to the assessment of the situation during pain.

Situation during pain	Group without depression		Group with depression	
	N	%	N	%
Risk	5	8,50	16	26,70
Risk, uncertainty	0	0,00	5	8,20
Risk, routine	8	13,60	2	3,30
Uncertainty	4	6,80	8	13,50
Uncertainty, unique	0	0,00	1	1,60
Uncertainty, routine	2	3,40	12	18,40
Unique	3	5,00	1	1,60
Routine	37	62,70	16	26,70
Total	59	100,0	61	100,0

The results of the assessment of the situation during pain in both groups are presented in Table 2. More than half of patients with chronic pain without depression (62,70%) perceived the situation during pain as a routine. Next in frequency were those who identified it as both a risk and routine (13,6%) and as a risk (8,5%). The patients who defined it as an uncertainty (6,8%), as unique (5%) and as a combination of situations of uncertainty and routine (3,4%) comprised a smaller share. (Table 2)

Equivalent proportions of patients with chronic pain and depression perceived the situation during pain as a routine (26,7%) and as a risk (26,7%). The share of patients who defined it as a situation of uncertainty was 13,5%, and as a combination of uncertainty and a routine – 18,4%. The smallest shares were that of the patients who assessed the situation as unique (1,6%) and as a combination of unique and uncertain (1,6%) (Table 2).

DISCUSSION:

The distribution by age of the overall sample showed that the majority of the subjects were aged between 45 and 66 years. The female sex was predominant. Similar data are found in the literature. Chronic pain is most common among the adult population over the age of 40 [9]. Women tend to report more intense pain and depression compared to men [10]. Most of the patients had recurrent episodes of depression. Patients with a newly diagnosed depressive episode (8,19%) were also registered. These data reveal the need for systematic monitoring of the mental state of patients with chronic pain for symptoms of depression.

Regarding the mean values of the studied indicators, the two groups differed significantly ($p < 0.05$) (Table 1). Anxiety and depression are the most common emotions in chronic pain that affect the intensity of pain [11]. Although some researchers found that tension, anxiety and misgivings of impending danger are more common in patients with chronic pain and depression than without depression [12], the symptoms of anxiety were presented in both samples studied, but with varying degrees of expression – moderate for the group without depression and high for the group with depression. Some authors prove that the degrees of trait and state anxiety have a cumulative effect on the subjective sensation of pain [15].

Pain as a source of experience is formed under the influence of emotional, cognitive and situational factors. The way the situation is perceived relates to the cognitive aspects of the experience and determines the individual responses to pain. One of the models of situational analysis was proposed by Jeanne H. Block and Jack Block (1981). It includes three conceptual levels: physico-biological, canonical and subjective. The first level includes all external stimuli that the nervous system can perceive. The second level encompasses only the equally perceived and interpreted aspects of the situation. The individual responses to each situation are formed on the third level, which determines the significance of the experience [4].

Aleksandrov I. (2015) proposes a model for examining the conditions of the environments and the resulting situations in a hospital setting, introducing two variables – degree of extremeness (low and high risk) and character (uniqueness and routine) of procedures. This model defines four types of situations: unique, routine, risky and situation of uncertainty [8]. More than half of patients without depression (62,70%) and about ¼ of patients with depression (26,70%) assessed the situation during pain as a routine. Routine is associated with built-up experience, habituality and conventionality of the situation, i.e. a situation to which the person has become accustomed and has accepted. Individuals who demonstrate a willingness to accept pain have an optimistic outlook on their lives. They are defined as pain-resilience individuals as they are able to effectively control their pain by imposing control over their emotions [16].

The situation during pain was perceived as a risk by 26,70% of the group with depression and 8,50% of the group without depression. The risk situation is associated with a real threat to one's health and life or with potential harm. The situation was assessed as one of uncertainty by 13,50% of the group with depression and 6,80% of the group without depression. The uncertainty is associated with the risk of an adverse outcome. The total proportion of patients with depression who assessed the situation during pain as a risk and/or uncertainty was 48,4% [8]. The threat and the uncertainty are associated with anxiety and with experiences of insecurity, helplessness, catastrophizing and fear of pain. The assessment of pain as a threat is on the basis of the pain avoidance model because of fear of pain – a maladaptive pattern of behavior whose negative consequences lead to immobilization, inability to participate in family and work commitments and depression [17]. Only 1,6% of the sample with depression and 5% of the sample without depression identified the situation during pain as unique, occurring for the first time, which is explained by the fact that chronic pain persists over time and would less often be perceived as a temporary phenomenon.

The analysis of the results showed that patients with depression and chronic pain were more likely to assess the situation during pain as a risk and/or as an uncertainty and a patient with chronic pain without depression – as a routine. These data correspond to the high mean value of trait anxiety for the group with depres-

sion, which predetermines their tendency to interpret a wider range of situations as dangerous and threatening, including the occurrence of high state anxiety [18]. Depression and anxiety affect how the situation is perceived during pain. According to Wenzel et al. (2011), the manipulation of four interrelated variables of emotions, situations, thoughts, and behaviors is sufficient for changing the cognitive appraisal and maladaptive behaviors that maintain impaired functioning in patients with chronic illness [19]. Restructuring cognitive-evaluating processes in patients with chronic pain could affect the reduction of depression, anxiety and the fear of pain. Thereby, adaptive ways of coping with pain are formed [6].

CONCLUSION:

The assessment of the situation during pain reveals information about the need for psychotherapeutic interventions to form adaptive patterns of behavior for coping with chronic pain. Understanding the specifics of the links between the perceived situations during pain and the emotional and personal factors is the basis of individualized approaches to improve psychosocial functioning.

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