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POSSIBILITY OF USING MODERNIZED PAIN SCALE IN CLINICAL PRACTICE

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Key words: *pain scale, pain syndrome, subjectivity, pain assessment.*

Summary: *pain is a personal subjective sensation of a person, which includes sensory and emotional experiences that exist regardless of the kind of origin. Pain arises from a perceptual component (nociception) associated with the transmission of a painful stimulus to the brain, and a component associated with experience that depends solely on the subject, that is, how they perceive and experience pain. The very definition of pain subjectivity can cover several of its components: sensory-discriminatory, affective-emotional, and cognitive-behavioral. Any diagnostic or therapeutic procedure performed by medical personnel, regardless of the situation, situation and age of patients, is especially dangerous and stressful event. Pain in patients is most often associated with anxiety and fear, and its presence often has a significant impact on the perception of medical manipulations performed, and subsequently affects the quality of life. Currently, one of the main goals of medicine is to improve methods for pain management, but the risk is to reduce pain to nociception, ignoring the multifactorial aspect of conscious experience, or, conversely, giving priority to the suffering experienced, excluding the measurement of nociceptive pain. This difficulty is an obstacle to understanding pain and is important for medical practice, which we propose to analyze in this article, offering the most modernized pain scale.*

Relevance. One of five adults suffers from pain, each year in one in ten pain goes into a chronic form. Pain, as a phenomenon, has attracted increasing attention in recent years and has been the subject of numerous studies [1]. Such a complex multicomponent phenomenon as pain causing significant discomfort to patients and limiting the ability to follow a daily routine cannot be assessed by primitive methods. However, like all phenomena, for pain to be assessed, it must also be measurable.

For this purpose, various evaluation tools have been proposed and adopted that, for their effective use, must meet certain psychometric parameters. Some of these evaluation methods are intended for use by the patient himself, others are intended for medical personnel and are used for patients who cannot independently assess their pain.

An additional measurement of pain based on such methods would determine the most appropriate therapeutic strategies, assess the effectiveness and subsequently adjust them as necessary. The choice of the pain measurement scale is made in accordance with individual features and involves a good knowledge of the cognitive and behavioral characteristics of a person.

Currently, it is not possible to definitively answer the question of which scale is preferable, in what situation and in what form reliable indicators are observed. The absence of a comparative "gold standard" could call into question any scale. Despite the existence of evidence-based recommendations, there was no consensus on adequate assessment and management of pain.

Purpose: theoretically justify the design features of the proposed modernized scale

Tasks: justify the feasibility of using a modernized scale of objectification of pain syndrome.

Material and methods. During the study, the early and domestic publications of the topic under consideration were analyzed to summarize the available empirical and theoretical data on existing pain scales to develop new parameters for the pain syndrome objectification scale.

Results and discussion. The focus of this study is the development of psychological testing, which consists of the application of a certain type of questionnaire on which the scale is based.

The pain aggravation scale is a pain assessment method developed to objectify the actual intensity of pain in patients who are prone to exaggerating the severity of the symptoms of their disease due to depression, anxiety, opinion, increased self-impairment and catastrophizing.

The scale contains 25 items divided into 5 sub-scales: opinion (1, 6, 11, 16, 21), anxiety (items 2, 7, 12, 17, 22), depression (items 3, 8, 13, 18, 23), catastrophizing (items 4, 9, 14, 19, 24) and increased attention to pain (items 5, 10, 15, 20, 25). Each of these sub-scales includes 5 co-responsive statements characterizing these elements of the scale, to which patients respond based on how close they are to the condition described in the questionnaire. The answers for each of the questionnaire items are evaluated according to a five-point system, from 0 to 4 points, and are ranked from 0 - completely not-true to 4 - completely agree. The maximum number of points is 100, the obtained total score for all five types of sub-scales from the total score classifies the degree of aggravation into 3 groups: 0-40 points - the absence of a chosen tendency to exaggerate, 41-74 points - moderate severity and 75-100 points - a clear tendency to aggravate pain.

The next scale, which goes in combination with the above-described, is the pain intensity scale, where the patient is given the opportunity to choose the line most suitable for the color palette, corresponding to his sensations, which allows further assessing the severity of the psychogenic component of pain depending on the selected color (yellow, black, red, fig-fly). Such detection of a discrepancy in the color perception of pain in patients allows the most objective measurement of subjective states. The scale is a graded color line, which is awarded 5 descriptors: 0-20 points - no pain, 21-40 - insignificant, 41-60 - moderate-nye, 61-80 points - strong, 81 and higher - unbearable. Such a method makes it possible to increase reliability of pain assessment, which is achieved due to inclusion of a description of behavioral reactions corresponding to a certain range of scores.

Depending on the number of points received on the pain aggravation scale, it was decided to take the corresponding number of points from the pain intensity scale. The assessment of the possible exaggeration of severity of patient’s pain by the patient himself should be carried out critically, based on a previously collected history and based on behavioral reactions to pain syndrome. However, we propose to establish a similar score: the range of values on the pain aggravation scale 41-74 is translated into secondary scores, that is, it will be equal to the range from 1 to 10 points; the range of 75-100 primary points is 11-20 points. At the same time, the range from 0 to 40 points is considered a normalized value, therefore, there is no need to transfer to secondary points and then subtract them.

Secondary scores on the pain aggravation scale are taken away from the received scores on the intensity scale. Thus, the final score is derived corresponding to the actual expected assessment of pain intensity by the patient, without the influence of psychogenic factors.

There are various scales and questionnaires that help patients and medical staff to understand each other better in determining pain experiences, however, they tend to reduce this experience to measuring pain intensity. For example, unpleasant pain sensations during their cupping with solutions of antiseptics containing a local anesthetic can be measured by their intensity using a visual analog scale (Visual analog scale), a numerical rating scale (Numerical rating scale) and a face pain scale (Faces pain scale) [2, 3, 4].

In case the self-report of patients is considered impossible, other scales based on observation of medics of patients and which are already measuring functional restrictions, emotional and behavioral reactions from patients, for example, a behavioral scale of pain (Behavioral pain scale), The Critical-Care Pain Observation Tool (CPOT), Nonverbal Pain Scale (NPS) [5] are used.

Clinicians should be careful in choosing a pain assessment tool because existing scales are not interchangeable with each other, and they should most closely match the patient's symptoms and condition.

Many studies emphasize the subjectivity and individuality of pain experience. In this regard, we would like to suggest that we consider subjective parameters that may affect the patient's feeling of pain.

To determine whether the five data of the psychological elements of the scale we created determine the actual aggravation of pain, an analysis of existing studies topic was carried out.

When it comes to psychological factors, one of the main problems is differing behavioral patterns and emotional perception, which can be observed in different groups of patients. Currently, the view is becoming more common, suggesting that psychological disorders are present initially, before the appearance of pain complaints and, possibly, predispose to their occurrence. At the same time, it must be borne in mind that prolonged pain can also exacerbate emotional distress [6]. It is probably cognitive features that are responsible in this case for distorting patients' experiences of pain and suffering.

An opinion characterized by a strong concern about the disease and a tendency to fear or assume the presence of a serious disease based on minor symptoms is rather derived from an erroneous interpretation of the sensations experienced. The main feature of opinion that distinguishes it from psychosomatic diseases is the fear of a possible disease. In this case, two categories of people will be seen: the first type tends to feel all types of sensations more intensively; the second type will tend to develop somatisation [7].

Patients with anxiety disorder may or may not have a real disease condition, but they experience exaggerated somatic sensations such as sweating or palpitations, which can lead to even greater anxiety due to the possible presence of a serious underlying disease [8]. Increased attention to pain, which can be characterized as patients' complete focus on their painful sensations (sensory focus), can exacerbate the problem. It is worth emphasizing that signs of "normal" anxiety do not negatively affect the daily functioning of the body.

If we talk about the relationship between pain and depression, we can assume the following mechanisms: long-term severe pain syndrome can lead to the development of depression; depression preceded the onset of sickness, and pain was often the first manifestation of depression; depression and pain develop independently of each other. It is most likely that depression is the most important predisposing factor for the development of pain and the subsequent transformation of sporadically pains into chronic [9]. Depression is

characterized by pronounced, constant anxiety and avoidance of alarming situations. These symptoms cause distress, impair daily functional activity [10]. It can also be found that the focus of attention from solving everyday problems moves to negative thoughts, fear, which can be accompanied by many unpleasant somatic sensations.

Another aspect that significantly affects the exaggeration of pain is catastrophizing. The definition of catastrophism is based on the concept of irrationally negative anticipation of future events. Similarly, pain-related catastrophizing is broadly understood as a set of exaggerated and negative cognitive and emotional states that occur when patients are waiting for or in the case of actual pain [11]. Early studies can trace pain-related anxiety and fear combined with failure to distract attention from pain.

In our view, awareness of these facts is critical to understanding patients experiencing pain and is a prerequisite for introducing pain assessment tools like this into clinical practice. It is worth noting that such methods of pain assessment should not replace clinical judgment, they only help to take a step towards a more objective assessment.

Conclusions: 1. The validity of this scale has yet to be assessed as part of the objectification of pain syndrome, since it is well known that psychometric properties can vary depending on the population in which it will be applied; 2. Psychometric properties should be investigated for the informed implementation of the pain aggravation scale in clinical studies or routine medical practice to provide a reliable classification of pain in specific patients.

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