

Rescripting Mental Image of Pain in Patients with Chronic Pain: A Clinical Protocol

Rescripción de la imagen mental del dolor en pacientes con dolor crónico: un protocolo clínico

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Hamidehalsadat Asarian¹, Ahmad Borjali^{2*}, Hossein Eskandari³, Mahvash Agah⁴

¹Ph.D. Student, Department of Psychology, Faculty of Education and Psychology, Allameh Tabataba'i University, Tehran, Iran

²Associate Professor, Department of Psychology, Faculty of Education and Psychology, Allameh Tabataba'i University, Tehran, Iran

³Associate Professor, Department of Psychology, Faculty of Education and Psychology, Allameh Tabataba'i University, Tehran, Iran

⁴Associate Professor, Department of Medicine, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran

*corresponding author: Ahmad Borjali, Associate Professor, Department of Psychology, Faculty of Education and Psychology, Allameh Tabataba'i University, Tehran, Iran, Email: borjali95@gmail.com

Abstract

Background: Pain image is a relatively new field considered in patients with chronic pain. Clinical experience and the studies conducted have indicated that mental images related to pain play a key role in cognitive and emotional processing and pain experience in patients. The purpose of the present study was to develop a protocol for the rescripting of mental images for patients with chronic pain disorder to alter the perception and experience of pain in these patients.

Methods: The initial compilation was developed by studying the rescripting mental imagery methods and was organized according to the therapeutic needs of patients with chronic pain. Initial running of the protocols was conducted on a heterogeneous sample of chronic pain patients.

Results: Kappa coefficient was obtained 0.8 to 1 to ensure that the most relevant and correct contents were selected, showing an excellent agreement. The validity coefficient of the current protocol was obtained 1, ensuring that the protocol sections are best suited to the structures for therapeutic intervention, which showed a complete validity coefficient. Furthermore, the transferability of the current protocol was discussed in this paper.

Conclusions: Manipulating mental-images - which contains important cognitive elements of the patient as a compressed file and has an important connection with the emotional aspect of pain - can be provided for the patients with chronic pain as a short-term psychological intervention.

Keywords: Rescripting, mental imagery, pain images, chronic pain, clinical protocol.

Resumen

Antecedentes: la imagen del dolor es un campo relativamente nuevo considerado en pacientes con dolor crónico. La experiencia clínica y los estudios realizados indican que las imágenes mentales relacionadas con el dolor desempeñan un papel clave en el procesamiento cognitivo y emocional y la experiencia del dolor en los pacientes. El propósito del presente estudio fue desarrollar un protocolo para el rescripto de imágenes mentales en pacientes con trastorno de dolor crónico para alterar la percepción y la experiencia del dolor en estos pacientes.

Métodos: la compilación inicial se desarrolló estudiando los métodos de reproducción de imágenes mentales y se organizó de acuerdo con las necesidades terapéuticas de los pacientes con dolor crónico. La ejecución inicial de los protocolos se realizó en una muestra heterogénea de pacientes con dolor crónico.

Resultados: el coeficiente de Kappa se obtuvo de 0.8 a 1 para garantizar que se seleccionaron los contenidos más relevantes y correctos, lo que muestra un excelente acuerdo. El coeficiente de validez del protocolo actual se obtuvo 1, lo que garantiza que las secciones del protocolo son las más adecuadas para las estructuras de intervención terapéutica, que mostraron un coeficiente de validez completo. Además, la transferibilidad del protocolo actual se discutió en este documento.

Conclusiones: La manipulación de imágenes mentales, que contiene elementos cognitivos importantes del paciente como un archivo comprimido y tiene una conexión importante con el aspecto emocional del dolor, se puede proporcionar a los pacientes con dolor crónico como una intervención psicológica a corto plazo.

Palabras clave: Rescriptos, imágenes mentales, imágenes de dolor, dolor crónico, protocolo clínico.

Recent research on the existence of pain images, their relationship with pain intensity, emotional distress, and fear and avoidance of activity have introduced pain-related mental images as one of the potentially important goals of chronic pain therapeutic interventions (Berna et al., 2011; Carruthers et al., 2009; Gosden, Morris, Ferreira, Grady & Gillanders, 2014; Gillanders, Potter, L., & Morris, 2012).

Therapy based on reconstructing mental images has recently been used and studied for disorders such as eating disorders, depression, social anxiety, and personality disorders, which were more close to schema-based treatment and have been dealt with reconstructing the early memories associated with the disorder (Brewin et al., 2009; Weertman & Arntz, 2007; Wheatley et al., 2007; Wild, Hackmann, & Clark, 2008). Reconstruction of images is used with different therapeutic protocols in various disorders that differ in terms of technical applications and theoretical logic (Brockman & Calvert, 2016). In fact, this difference is more indicative of therapeutic goals and of specific conditions of the target community in clinical or research work. Similarly, given the special conditions of providing psychological services to patients with chronic pain, limited therapeutic goals focused on these patients' perception, and the nature of mental pain images (as compared to mental images associated with the initial memories), it is required to design a specific protocol.

Literature review: In the pain perception and pain phenomenology discussions, visual imagery is a powerful mechanism through which pain can be expressed. In chronic pain self-management guides and clinical guidelines for healthcare professionals, it has been referred to imagery methods, which obtain an image of one's pain and then change it to more tolerable pain (Sadler, 2007; Field & Swarm, 2008; Pincus & Sheikh, 2009).

There are considerable theoretical supports in this regard. The schematic, propositional, analogical, and associative representational system (SPAARS) shows that human emotional systems are particularly more sensitive to visual effects than speech and visual representations play an important and direct role in stimulating emotions (Power & Dalgleish, 1997, 2008). In addition, it was also stated in Moseley's (2012) fear-avoidance of pain model that imaging pain forms the fear and avoidance of pain; more-

over, linguistic cognition such as catastrophic thoughts are formed along with imagery cognition followed by fear. Therefore, mental images play an important role in stimulating the negative emotions associated with pain and in creating and sustaining a defective cycle of fear and avoidance of pain.

Several studies have investigated the nature and functional effect of spontaneous mental pain images. Gilandres et al. (2012) showed that reporting the existence of pain image is associated with higher anxiety, depression, and disaster. Gasden et al. (2014) found that image ones scored their pain more unfavorable compared to non-imaging ones in spite that they reported the same intensity of pain. The study showed that chronic pain images are disturbing, occurring repeatedly (at least every day), and interfered with everyday life. In another study on people with acute and chronic pain, 78% of patients reported that they experienced certain mental images along with the pain. Patients experienced more anxiety, anger, distress, and pain intensity (acute and chronic) during exposure to their pain image (Philips, 2011).

The only study about the effect of manipulating the mental image of pain is a study which has been conducted by Philips and Samson (2012) under test conditions on patients who had referred to rehab centers in Canada. The main question asked from participants was that "What do you think of your mental image of pain?" When the participants described their imagination in detail, they were asked "How would you prefer this imagination?" Reminding a new imagination significantly reduced the pain intensity, distress (anxiety, worry, anger), and the evaluation of threat (physical and emotional) compared to the control group.

Developing the current protocol: The protocol described below has been achieved through a clinical and research work on the pain images of patients with chronic pain. Its initial development has been influenced by the imagery methods described by (Brewin et al., 2009; Cooper, 2011; Edwards, 1990; Philips & Samson, 2012; Singer, 2006; Smucker & Niederee, 1995), which has been expanded and systemized based on the therapeutic needs and characteristics of patients with chronic pain according to the mental image of pain (Berna et al., 2011; Carruthers et al., 2009; Kirkham, Smith, Havsteen-Franklin, 2015; Gillanders et al., 2012; Gosden et al., 2014; Lonsdale, 2010; Philips, 2011; Philips, C., & Samson, 2012; Philips, 2015). The emphasis was on providing a sense of self-efficacy and controlling and improving coping strategies that are appropriate and relevant for people with chronic pain.

Credibility: Assessing the content validity including examining the extent to which the protocol content is consistent with the purpose of the protocol, whether it covers all major aspects, whether the designed sections are properly related to the structures, and whether the components and generalities of the protocol are acceptable to the relevant professionals, was evaluated in both qualitative and quantitative methods.

Kappa coefficient was obtained 0.8 to 1 to ensure that the most relevant and correct contents were selected, showing an excellent agreement. The validity coefficient of the current protocol was obtained 1, ensuring that the protocol sections are best suited to the structures for therapeutic intervention, which showed a complete validity coefficient.

Transferability: Clinical experiences for the development of the current protocol were in relation to a community of patients with chronic pain who have been referred to a pain specialist or psychiatrist to receive health care. These people included people suffering from any types of chronic pains including the musculoskeletal pain of legs, waist, hands, shoulder, neck, tension headaches, and migraines.

Referents have often received medical treatment at the same time or before, but psychological treatment has been initiated and carried out under the current protocol in terms of the stability of drug therapy. This includes other treatments and self-treatments that the patient is taking to cope with the pain.

Clinical samples included adults of both sexes, men and women, between the ages of 20 and 60. Typically, those who have the power of good imagery, tend more likely to receive this kind of treatment, but they were set in a variety of spectrum in terms of educational, economic, social, and cultural levels.

Since drug use, drug dependence, major depression, and psychotic disorders were likely to interfere with people's ability to image, they were considered as criteria for withdrawal.

A protocol for reconstructing the mental image of pain in patients with chronic pain

Identifying pain image: The main part is to examine the existence of any kind of imagination along with the pain experienced at the same time to determine the image of pain index and the qualitative and quantitative characteristics of index image (frequency, durability, resolution, content, etc.). People are also asked about their image meaning.

Pain image: The main question about the mental image of pain is as below:

1. "Please describe your pain for me."
2. "What thoughts do you have when you are in pain? Do images come to your mind at that time? Such as images of when your body is hurt or the imagination of pain like a being or an object? When you think about your pain, does any image come to your mind?"

If the referent may not have imagery thoughts related to the pain that had previously been thought of, it would be given time to him/her to create an image of his/her pain.

"What does your pain look like? It can have different shapes such as a phenomenon or an object, or how you overcome pain, or what is the meaning of pain, and so on."

Often, the referents do not initially report the existence of images and they need to be given an adequate opportunity to recognize the image.

Image of pain index: When the image(s) was (were) described, the referent would be asked: which one is the strongest or the most disturbing image? This image is an index image which is used in the intervention. The next questions are about describing the features and effects of the index image.

The meaning of image: Then, people are asked about the meaning of image: "What meaning does this image have for you, your future, and/or your life?"

A person's report on the meaning of image can include the following semantic themes, which are considered to select the technique of reconstructing and targeting imagery changes: 1. Awfulizing about the past, present, or future; 2. Physical disability, loss of control, dependence, and death; 3. Negative emotions and distress; and 4. Negative self-assessment. The relationship between mental image and memories can also include the following categories: accident or incident, workplace situation, family situations or concerns, physical symptoms, and other past events.

Rescripting mental image: The reconstructing stage or relaxation begins with deep breathing and activates the mental image related to the pain. Then, it encourages a patient to be placed inside or near the image rather than just talking about the image and use his/her multiple senses to deal with the sensory details of his/her mental image.

Types of reconstructing mental image include sensory reconstruction as well as cognitive reconstruction. The change in the negative mental image related to the pain is accomplished by changing the sub-qualities of the image, synaesthesia, and eventually manipulating the meaning and metaphor of the mental image during different sessions.

The importance of image sub-qualities is that it can greatly reduce the emotional impact of a mental image by manipulating and modifying several important sub-qualities such as proximity, distant, color, resolution, viewing angle, being fixed or moved, get the sound out of the image, etc., without interference with the content and themes of the image.

Synaesthesia means that the experienced mental image is transformed and translated among the five senses from one sense to another. It weakens the power and impact of the mental image from a dominant and preferential sense (for example, visual) to another visual system (for example, auditory).

The manipulation of meaning and latent cognitions in the mental image is used in two main ways here: 1. Change the background: Put the mental image in the other background and context in a way that its unpleasantness is eliminated or minimized; 2. Content change: The image is given another meaning. In addition, the creation of positive mental images related to the pain is taken place in the final sessions in order to increase self-efficacy, reinforce admittance and incentive attitudes, positive interpretation bias, facilitate relaxation, etc.

In the reconstruction stage, the therapist should note that he/she avoids being highly interfering with, or providing certain instructions, which are actually the therapist's own mental images and do not belong to the referent. The referent should have a sense of belonging to new mental images which he/she creates, that is, these new mental images are "his own". The referent should also be asked to complete the details of the new image. At the point of referent's obtaining the modified and new mental image, it can slowly guide him out of practice.

Getting feedback at the end of each session can be useful for guiding imagery at the next meeting.

Describing the case

Case 1: The patient has described the pain image as a flaming red ball.

The therapist: "Can you imagine this hot red ball as the sun at sunset on a beautiful beach on the horizon?"

"What else is there on this beach? What do you see? What do you hear?"

Asking about sensory details, the therapist attaches a new background to the patient's pain image.

The therapist: "Do you see its orange and red color? The sunshine is going out and you can see that the sun is slowly falling into the sea and the magical silence and calm of the sunset spreads everywhere. You can feel comfortable from this peace of mind as every few minutes as you want."

Case 2: For people with strong religious beliefs and feelings, changing images can connect with their deep religious beliefs. In the following case, the patient's pain image is an annoying rough and dry root, which has spread around its waist and rooted around.

The therapist: "What does need to be open? Does it need rain? Can this be a spiritual shower of mercy? Can you fly with your heart to a place full of this mercy and spiri-

tuality? Or not, as you are here relaxing on this armchair, does that holy person come just like as he comes to your dream?"... "He touches the dry root; his healing hand makes the dry and rough wood like the soft roots of thin seedlings. Or, like soft and thin branches of weeping willow that are full of greens and not even a branch can be seen, your waist becomes full of soft and flexible green, full of life, sense of shadow and peace, and the love of weeping willow". "There are tears in your eyes. Are you feeling that green presence of holy healing?"

The patient confirms with a shake of the head.

The therapist: "Record the love and peace you feel. Whenever the branches of this soft and green weeping willow in your waist come to your mind, the love and peace and the presence of the gift you received also come to your mind and you can feel it."

Case 3: The patient has described his/her pain as a substance that causes severe burns.

The therapist: "Had you gotten a spicy Indian food? It is very spicy at first, your mouth is so burned that it does not go well with cool water, even water flows from your nose and eyes and burning is painful. However, if you live there for a while and eat those foods, at a time when you do not know exactly when you see your body would be adapted with them." "Now, the substance that burns, in the first minute, it's burning is too much, but your body can become somewhat insensitive to your burning pain with every few minutes past such as mouth becoming adaptable with spicy Indian food, your hand nerves can also be adapted to some extent."

Case 4: The therapist: "You described the pain intense and sharp like the tip of a knife that dips in your bone- in your legs? How can this pain be more tolerable? If the knife tip dipping is not so sudden and deep?" "You can imagine that your left foot is covered with a few layers of thick linen cloth which is not detached from it? The fabric is so tight and compressed that nothing can penetrate inside it, no matter how sharp and cutter it is. Can you see this clearly? Can you feel? What color is it? Where the leg is covered?" [Pause and focus on details] "Now see a sharp knife dip in these layers of linen, but absolutely it cannot penetrate inside it, you may feel a pressure that is passed through this cloth to you, it has a mild pain. However, it is more pressure and you can much better tolerate this range of pain."

Conclusions

Recommendations for further research

For each protocol, this question arises: What improvements can be made to make it more effective? Exploratory research can be useful whether there is a significant preference between sensory reconstructing techniques (change in the minor qualities of the image and sensory

displacement) and methods of manipulating the meaning and metaphor existed in the image in terms of the speed and stability of change in the mental image of pain and the change in patient perception of pain? How much can any of the following items such as the history of chronic pain (which can vary from 6 months to several years among patients) or the type of the chronic pain- in terms of the main place of the pain which includes a different disease pattern, and also the degree of pain intensity or distress and so on, make a difference in the performance and effectiveness of the protocol? The clinical and exploratory studies associated with each of the above cases can add special stages and points to the protocol for better efficiency.

Acknowledgments:

This research has been extracted from the thesis of the first author in this article. The thesis was supervised by Dr. Ahmad Barajali and Dr. Hossein Eskandari and advised by Dr. Mahvash Agah and Dr. Ali Delavar. Hereby, the author would like to greatly appreciate all colleagues and participants in this study.

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