



Editorial

The challenge of pain

José Aparecido Da Silva

Universidade de São Paulo, São Paulo, SP, Brazil

Pain is a universal phenomenon experienced from birth to the end of life (Marchand, 2012). It exists from the simplest type that is mild and inconsequential to an intolerable type that requires treatment as well as persistent chronic type of pain that is beyond cure. Reductions of activity that usually do not make the patient's life unbearable are the reason why more than 80% of people seek medical care, making pain the main reason for seeking medical treatment.

However, not everybody feels pain the same way. Women report feeling pain more than men, and the elderly are more likely to suffer from chronic pain than the young. Therefore, treating pain is a complex and stressful task that requires consideration of the type of pain that the patient experiences and the motivational, cognitive, emotional, and personality characteristics of the individual who suffers from pain. Fundamental information about the choice of effective, tolerable, and safe treatment reveals how difficult treatment will be for healthcare professionals to relieve pain in affected individuals (Marchand, 2012).

Basic and clinical research on pain has provided progressive and continuous advances in the last decades, especially with regard to a better understanding of the neurophysiological and psychological mechanisms of pain and most adequate attitudes and treatments that are required for pain management. Understanding that pain is not only a pathological outcome but also a problem in and of itself. Medical terms such as "hidden pain" and "idiopathic pain" have been used when its exact cause is unknown. Although this appears to be simplistic, such diagnostic knowledge that pain can exist even when one cannot determine its origin is relevant for different treatments.

For a comprehensive overview of the multiple facets and interfaces of pain, examining both its physiology and psychology becomes necessary. As a subjective experience, pain requires different mechanisms of interpretation that can be physiological such as the result of an injury or psychological such as the anticipation of an injury.

Although one might be able to differentiate purely physiological aspects from psychological aspects at the experimental level, the same does not necessarily hold true at the interpersonal level when working with patients who are in pain. In the latter case, these two

dimensions are deeply connected. Such subjectivity is also manifested in different cultures with regard to pain perception and expression. Additionally, descriptors of pain also vary, positioning themselves in different perspectives such as sensorial-discriminative, motivational-affective, cognitive-behavioral, and nociceptive (Melzack, 1973; Melzack & Wall, 1982).

Despite being considered a negative experience, pain is a universal experience in the animal world and essential for survival. Playing a role as an alarm signal, pain is in fact the main symptom when recognizing an ailment of a body organ. Coupled with monitoring the progression of trauma and evaluating its seriousness, pain forces us to adopt preventive behaviors to protect us from further worsening of the most diverse injuries.

Because of the different origins of pain and modulation by different physiological and psychological processes, the idea that a single drug can relieve all types of pain becomes inconceivable. Each patient represents a unique and genuine case for whom physiological, emotional, and cognitive aspects are components of pain perception. This fact requires that pain treatment takes an interdisciplinary approach, building a true bridge between scholars, practitioners, and clinicians from different disciplines. We must consider multiple factors from knowledge of the neurophysiological mechanisms of pain to understanding the emotional and attentive factors that modulate pain perception and expression (Melzack, 1973; Melzack & Wall, 1982). We must also consider the possible bias caused by subjective pain measurements. In this context, pain measurement remains a great issue. Pain assessment constitutes a cornerstone of its treatment (Da Silva & Ribeiro-Filho, 2006). Without a proper evaluation, clinicians cannot determine whether the intervention is effective. Therefore, reliable and valid pain measurements are critical for understanding the effectiveness of analgesics and other treatments in clinical practice. Because pain assessment is necessary for its effective treatment, everything that contributes to the knowledge of its measurements also contributes to pain reduction and the relief of pain-induced suffering. One cannot base the efficacy of a new therapeutic approach on only the clinician's perception of whether the approach is satisfactory for proper pain control (Da Silva, Ribeiro-Filho & Matsushima, 2010).

One extremely important issue in the clinical/hospital environment is the lack of proper pain measurement to ascertain which treatment or therapeutic intervention is best. Without such measurements, determining whether a treatment is necessary, effective, or should be stopped is difficult. Conversely, with appropriate pain measurements, determining whether the risks of a given treatment outweigh the damage caused by the clinical problem itself is possible. One can also choose the best and safest intervention among different therapeutic options.

Thus, better monitoring and analysis of the mechanisms of action and side effects of different drugs allow examination of the nature of pain, its origins, and clinical correlates as a function of the patient's emotional, motivational, cognitive, and personality traits. Sometimes only rough pain estimates, such as "pain present" or "pain absent," are necessary for clinical interventions. However, to better understand the phenomenon and evaluate the efficacy and tolerability of interventions, using more sophisticated pain measurements to assess intensity and cognitive and affective responses linked to pain becomes necessary (Miller, Colloca, Crouch & Kaptchuk, 2013).

Pain is essential as is the preservation of the integrity of the human organism, which would not be able to live long without a very precise alarm system. Understanding pain requires the convergence of knowledge from different disciplines at different levels, never reducing it to merely neurophysiology or pharmacogenomics. Recalling Richard Chapman, prior Director of the Center of Research on Pain from the University of Utah in the U.S., "Pain is in the other extremity, the human being needs to be considered as a whole. It is a conscious experience that emerges from our complex brain. People suffer from different complex ways" (Chapman & Syrjala, 2001). Therefore, understanding this subjectivity is our great challenge,

especially knowing how to measure and evaluate pain, regardless of whether the pain is our own or the pain of others.

This special issue is dedicated to comprehensively understanding pain and analyzing different theoretical, experimental, and practical aspects of pain. Each manuscript herein constitutes an excellent source of information for clinicians and researchers that is broadly relevant for any healthcare professional who is interested in these types of studies. The knowledge contained herein will also be extremely useful for undergraduate and graduate students.

I would like to thank Prof. Dr. J. Landeira Fernandez, Editor-in-Chief of *Psychology & Neuroscience*, for the kind invitation to act as Guest Editor for this issue. His encouragement, support, and "regular requests," certainly made this task a pleasant one, without the least notion of pain.

Finally, I dedicate this special issue to the memory of my friend and colleague, Prof. Dr. Nilton Ribeiro-Filho who was more than a brother and a scientist with whom I was fortunate to share many ideas in the area of perception and psychophysics and challenging the current measurements of pain.

References

- Chapman, C. R., & Syrjala, K. L. (2001). Measurement of pain. In: J. D. Loeser, J. J. Bonica (Eds.), *Bonica's management of pain* (pp. 310-328). Philadelphia: Lippincott Williams & Wilkins.
- Da Silva, J. A., & Ribeiro-Filho, N. P. (2006). *Avaliação e mensuração de dor: Pesquisa, teoria e prática*. Ribeirão Preto, SP: Funpec-Editora.
- Da Silva, J. A., Ribeiro-Filho, N. P., & Matsushima, E. H. (2010). *Mensurando o quinto sinal vital: A dor*. Ribeirão Preto, SP: Funpec-Editora.
- Marchand, S. (2012). *The phenomenon of pain*. Seattle: IASP Press.
- Melzack, R. (1973). *The puzzle of pain*. New York: Basic Books.
- Melzack, R., & Wall, P. D. (1982). *The challenge of pain*. New York: Basic Books.
- Miller, F. G., Colloca, L., Crouch, R. A., & Kaptchuk, T. J. (2013). *The placebo: A reader*. Baltimore: John Hopkins University Press.