

Athletes choose to feel pain!

O atleta escolhe sentir dor!

DOI 10.5935/2595-0118.2023010-en

We invite our readers to notice and appreciate the significance of the following accounts from runners who were included in one of our research projects: 1. “Running always shows that I can go beyond. I wanted to, and I did it! Even though I felt cramps for 10 km during the course, my heart was pushing me to the finish line. It was good. It is always hard and good”; 2. “The only thing that would make me stop running would be an extremely serious injury, something that would prevent me from walking, because as long as I am able to walk, I will find a way to run”; 3. “People who are addicted to running do it all, they can handle pain, they can handle everything”; 4. “Whose never felt pain before, right? If you train hard, if you want to evolve, you will feel pain, pain is part of the process. You can’t leave it aside”. Based on this kind of daily reports we have been receiving and anchored in the current literature, we present important points that support the title of this editorial: athletes choose to feel pain.

The regular practice of physical exercises, in general, contributes to the reduction of pain sensitivity, and endurance exercises are indicated as the main modulators of these responses. Thus, this type of exercise becomes an excellent option for people who seek to reduce pain, especially those related to chronic pain (for instance, fibromyalgia), which are associated to hypersensitivity and the reduction of endogenous pain inhibition¹.

When talking about athletes, pain perception arises in a completely different context, and when compared to individuals with chronic pain, who suffer from uncontrollable and unpredictable pain, we can realize that it is often a choice, that is, pain is voluntary and self-provoked, often by rigorous training and exhausting competitions².

Yes, athletes decide to feel pain! And, in these cases, it is important to emphasize that pain experiences do not always indicate detrimental physical conditions that will necessarily cause injuries or compromise training and competition. On the opposite, what is expected with regular exercise is that the pain pathways get used to the stimulus, that they adapt in a positive way, thus leading to a condition of less neural sensitivity.

In terms of pain sensitivity, athletes represent a distinct population, showing greater pain tolerance compared to non-athletes³, but the question, however, is: which mechanisms can lead to differences in pain perception in athletes? To date, it is not known for sure: whether athletes improve their tolerance and pain threshold with training and become elite athletes, or whether it is something related to a natural selection (innate) and only the most tolerant and with higher thresholds are part of this select group.

Pain experiences accompany athletes during training, during the days following training, every day, for many years, and it is expected that they will adjust to the need to endure these painful events. Several hypotheses have been proposed, such as that repetitive exposure to low-intensity pain may induce physical and mental tolerance to pain or that increased baroreflex sensitivity may influence pain tolerance², but nothing has been completely defined yet. In the competitive scenario, pain can be very intense and yet not be aversive, there is a strong affective-emotional component, regarding the passion for the sport, often obsessive, involving pleasure, reward, and overcoming, which makes the athlete feel pain and continue to compete. This reflects a complex interaction between pain threshold (discriminative-sensory component of pain), pain tolerance (psychological perception of pain), and affective-emotional components⁴, which are crucial to the comprehension of the athletes’ ability to withstand and overcome their own limits.

Thaysa Passos Nery Chagas

Federal University of Sergipe, Physiological Sciences Post-Graduation Program, Aracaju, SE, Brazil

 <https://orcid.org/0000-0002-4154-3832>

E-mail: thaysanery@academico.ufs.br

Josimari Melo DeSantana

Federal University of Sergipe, Physiotherapy Department, Physiological Sciences Post-Graduation Program, Post-Graduation Program in Health Sciences, Aracaju, SE, Brazil.

 <https://orcid.org/0000-0003-1432-0737>

E-mail: josimelo@academico.ufs.br

REFERENCES

1. Edwards RR. Individual differences in endogenous pain modulation as a risk factor for chronic pain. *Neurology*. 2005;65(3):437-43.
2. Geisler M, Ritter A, Herbsleb M, Bär KJ, Weiss T. Neural mechanisms of pain processing differ between endurance athletes and nonathletes: a functional connectivity magnetic resonance imaging study. *Hum Brain Mapp*. 2021;42(18):5927-42.
3. Tersarz J, Schuster AK, Hartmann M, Gerhardt A, Eich W. Pain perception in athletes compared to normally active controls: a systematic review with meta-analysis. *Pain*. 2012;153(6):1253-62.
4. Thornton C, Sheffield D, Baird A. A longitudinal exploration of pain tolerance and participation in contact sports. *Scand J Pain*. 2017;16:36-44.

