

## Verbal expressions of the horses to the pain

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For communicating with the environment (other horses, foals, owner, etc.), horses have to use different methods. In contrast with the human, for whom talking is the most important way of communication, the horses can't talk. In the years 1990s and before, the imagination was such that the infants do not express verbally to the pain either (like horses).

To communicate, horses use their body language. Vocalization (if not the body language), seems to be the most important way of communication in horses, though it seems they use the same tone when exposing to different events.

In this study which was performed in collaboration with the electronic institute of Sharif technical university (the top most technical university of the country), totally 25 horses were used. The horses were exposed to different events (hunger, pain, loneliness, mating, parturition and separation of the 1-2 weeks old foals from their dams). The verbal expressions of the horses were studied using spectrogram.

The results of this study showed that there were significant differences between the spectrograph of the voices of the horses, exposed to hunger, and the separation of the foals from dams. This was the same (no significant differences) when horses were exposed to loneliness, separation and hunger. There were no significant differences between the verbal expressions of the horses while exposed to mating, parturition.

One of the most important reasons why the horses do not have verbal expressions when exposing to the pain, might be the absence of the part of the brain, responsible for the pain interpretation. More research has to be performed to prove this.

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