

# **A retrospective analysis of PubMed publications regarding the relationship between stress and athletes**

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## **Abstract**

*Background.* Stress (S) and athletes (A) are subjects of research interest, but the S+A relationship has been little investigated.

*Aims.* The aim of the present paper is the evaluation of research regarding the S+A relationship, by the retrospective analysis of PubMed publications over the past 62 years.

*Methods.* The S+A relationship was analyzed in two types of investigations: A) Analysis of the keyword combination "stress and athletes" by the evaluation of three filters, each with corresponding sub-filters: Text availability, Species and Sex. B) Comparative analysis for the keyword combinations: "stress and athletes" (S+A), "stress and athletes and cortisol" (S+A+C), "stress and athletes and pain" (S+A+P), "stress and athletes and pain test" (S+A+PT) and "stress and athletes and VAS" (S+A+VAS).

*Results.* There are significant differences between the averages per year over 62 years: a) for the total number of publications (N), those with abstract (A) and full-text (FT) respectively, compared to those with free full-text (FFT); b) between studies with human subjects and those with animal subjects; c) between S+A and the other chosen keyword combinations, S+A+C, S+A+P, S+A+PT, S+A+VAS.

*Conclusions.* 1) The total number of publications over 62 years, with the keywords "stress and athletes", is representative, 2448. 2) For the S+A keyword combination, the number of FFT publications is low compared to N and A, which could be an impediment for detailed consultation by those with modest financial possibilities. 3) For studies with S+A keywords, human subjects of both genders were preferred. 4) The publications regarding the evaluation of stress in athletes (through cortisol) and of pain under stress conditions in athletes (through various tests, in particular VAS), although numerically modestly represented compared to the total number of publications relating to stress and athletes, are important, through the role attributed to these parameters.

**Key words:** stress, athletes, cortisol, pain, VAS, PubMed filters.