

Music performance anxiety (MPA): endocrine variables and their impact on female

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Dear Editor,

Anxiety is a manifestation with high prevalence in the population. The musical performance requires a high level of skills, making it susceptible to anxiety state¹. Studies show an alarming incidence of about 50% of music performance anxiety (MPA) among professional musicians¹⁻⁴. Literature data show a consistent difference between females and males (3:1 respectively)⁵. In the stress, there is a release of CRH in the hypothalamus, which determines an increase in the secretion of ACTH⁶⁻⁸. This study aimed to determine whether endocrine variables (cortisol and ACTH) could be related to gender differences in MPA.

The following inclusion and exclusion criteria were used: (Inclusion) – adult UFSJ (Sao Joao Del Rei Federal University) music students; (exclusion) – patients with a diagnosis or treatment of psychiatric diseases or uncompensated organic diseases. All the subjects completed and signed the Consent Term and Informed (TCLE), approved by the Ethics Committee of UFSJ. It was applied to version validated for the Portuguese language K-MPAI⁹, which aims to establish scores for the MPA. The higher the score, the more suggestive MPA. Scores of the 4th quartile of this population were considered high (≥ 136). For the 28 subjects (14 + 14 larger smaller) polar distribution, were made the blood samples to measure cortisol and ACTH. The samples were collected between 08 a.m. and 09 a.m., and the patients were instructed not to smoke, eat, or drink alcohol within 12 hours before the collection. The reference values adopted for cortisol were 05-25 ug/dL and the plasma ACTH 06-76 pg/mL. Statistical analysis sought to establish relations between anxiety levels, gender and cortisol and ACTH. Parametric tests were applied.

The study population consisted of 140 subjects who met the inclusion criteria. There were 89 men (average K-MPAI = 106.70; $s = 31.88$) and 51 women (mean K-MPAI 109.03; $s = 35.52$). The average age of the study population was 24.8 years. There was significant difference in scores of K-MPAI neither between the female and male groups nor in the lowest score group (14 students). However, in the highest score group (9 men and 5 women) the following pattern was detected: men presented a score in the K-MPAI significantly lower than women ($\bar{x} = 161$ e $\bar{x} = 145,5$) ($p \leq 0.01$). In relation to the hormonal dosages, it was demonstrated that, although the concentrations of both cortisol and ACTH were within the normal range (according to reference values), it was found that the ACTH concentrations in the highest K-MPAI score group were significantly higher in women ($\bar{x} = 20,3$ e $\bar{x} = 17,66$) ($p \leq 0.05$). On the other hand, serum concentrations of cortisol in the male group were significantly higher ($\bar{x} = 13,80$ e $\bar{x} = 14,68$) ($p \leq 0.05$) (Figure 1).

The results indicate that the ACTH possibly has a role related to the MPA. The discrepancy that occurred in relation to cortisol (Men > Women) could be explained as a function of the cortisol inhibit the HPA axis, with consequent inhibition of ACTH release in the male group⁸. It is expected that this study can contribute to initiatives aiming at the improvement of conditions in the psychic musical performance.

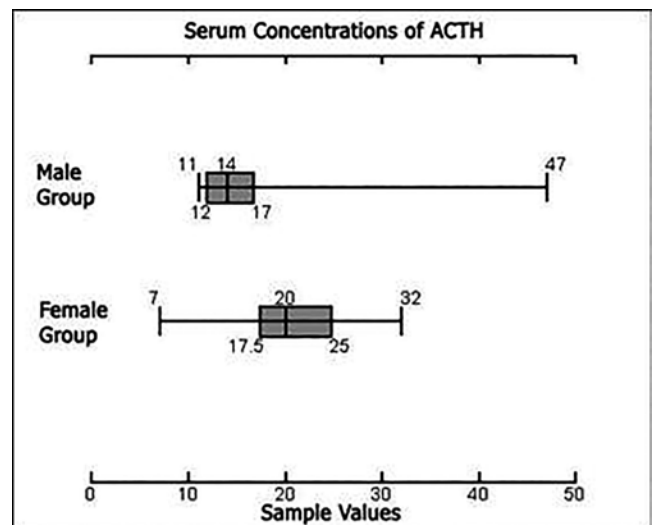


Figure 1. Comparison between the male sample and female in relation to serum concentrations of ACTH (pg/mL).

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