

# SOCIAL CLOSENESS, SALIVARY HORMONES AND PHYSICAL EXERCISES

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**Introduction:** Saliva collection and analysis is quickly becoming a useful and non-invasive tool for the evaluation of sport biomarkers. The aim of this study is to create a multidisciplinary assessment model, which can help to provide psychological and physiological responses, related to sport performances, social closeness and performance anxiety management in team sports.

**Materials and methods:** We enrolled in our research 26 female volleyball players aged  $13 \pm 1$  years old of three different teams (T<sub>1</sub>: 12 players; T<sub>2</sub>: 9 players; T<sub>3</sub>: 5 players).

Saliva collection was carried out before and after the match for every team.

Then we analyzed cortisol and progesterone concentrations through Elisa standard kits.

**Results:** The results of the T-test performed on the total results showed a statistically significant relationship ( $p < 0.05$ ) in cortisol levels pre and post match: in fact, it has been shown a statistical significant decrease ( $p < 0.001$ ).

The analysis performed using just samples post match shows a negative correlation between social closeness, cortisol and progesterone levels, with  $p < 0.010$  for progesterone vs social closeness and  $p < 0.012$  for cortisol vs social closeness, which indicates that increasing of one of the two hormones ~~it~~ reduces relationship.

About the winner teams and the loser teams, there is a negative correlation between pre match cortisol levels and performance anxiety ( $p < 0.042$ ).