

## **Abstract**

**Title:** Influence of the menstrual cycle on the sports performance of female cyclists.

**Objectives:** The aim of this work is to analyse the performance of female elite athletes in cycling in different phases of the menstrual cycle using a questionnaire survey and laboratory testing. And to find out whether menstrual cycle and its phases affect their sport performance.

**Methods:** In our thesis we used two method. The first method was a non-standardized anonymous questionnaire sent to women who are or have been involved in cycling. The second method was a laboratory stress test of three female cyclists. We tested each proband during three phases of her menstrual cycle. During the menstrual, follicular and luteal phases.

**Results:** We found that the menstrual cycle affects athletic performance. Based on the questionnaire we learned that they perceived the influence of the menstrual cycle on their sport performance, whether due to physical or psychological difficulties. Testing showed that during the follicular phase, all probands experienced an increase in maximal performance. At the same time, they all described their mood as cheerful and energetic. During the luteal phase, on the other hand, all probands experienced a decrease in maximum performance. At the same time, they defined their mood as neutral to irritable. During the menstrual phase, none of the probands showed a significant difference in maximum power output compared to the other phases. However, during the menstrual phase, the probands reported some subjective feelings and difficulties that may affect their sport performance in a way that they decide not to perform any sport performance.

**Keywords:** cycling, sports performance, female, menstrual cycle