

# BOOK OF ABSTRACTS

8<sup>TH</sup> MEETING OF YOUNG RESEARCHERS  
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# Different Evaluation Methods of Resting Energy Expenditure in Obese Women Before and After Bariatric Surgery

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**Background:** Obesity has been increasing on a global scale in recent decades, making it important to properly evaluate the energy balance so that energy needs in these subjects are established as accurately as possible. The main objective of this research was to study the suitability of using various equations used to estimate resting energy expenditure with the results of indirect calorimetry (used as the reference method) in women undergoing bariatric surgery.

**Methodology:** A total of 17 women undergoing bariatric surgery in three stages: pre-surgery, 1 and 3 months after surgery were evaluated. In all evaluations, it was made anthropometric measurements, body composition and it was estimated resting energy expenditure by the method of indirect calorimetry. Several predictive equations of resting/ basal energy expenditure daily, used in clinical practice were used.

**Results:** At first assessment, equations of MifflinMLG, OwenMLG and Bernstein showed no significant differences when compared with the average of indirect calorimetry. In the first month, in addition to the three above, the Cunningham equation and BIA method also did not differ significantly from the results of indirect calorimetry. In the third evaluation Owen's equation and the above obtained the previous results. Analyzing the deviation from the average in the three assessments, Bernstein's equation showed the greatest similarity with the values of calorimetry.

**Conclusions:** Further studies are needed to establish the clinical practice a credible, fast and accurate method to calculate the resting energy expenditure in this population.

**Keywords:** obesity, bariatric surgery, resting energy expenditure, indirect calorimetry, predictive equations