

## **Comparison of body composition, basal metabolic rate and metabolic outcomes of adults with Prader-Willi Syndrome and age- and BMI-matched patients with essential obesity.**

S. Lazzer, A. Gatti, M. D'Alleva, L. Mari, S. Zaccaron, J. Stafuzza, E. Rejc, A. Bondesan, D. Caroli, F. Frigerio, L. Abbruzzese, E. Ventura, G. Grugni, A. Sartorio  
Journal of Clinical Medicine 14: 2646, 2025.

Background/Objectives: This study compared metabolic syndrome (MetS) features in patients with Prader-Willi syndrome (PWS) to those in age-, BMI-, and gender-matched subjects with essential obesity (EOB).

Methods: Thirty-two PWS patients (23 females, 9 males; median age 31.6 years; BMI 42.0 kg/m<sup>2</sup>) underwent several assessments, including anthropometric measurements, body composition via bio-impedance analysis, basal metabolic rate (BMR) using indirect calorimetry, and blood sampling.

Results: Their data were compared to a matched EOB group (23 females, 9 males; median age 31.4 years; BMI 43.5 kg/m<sup>2</sup>). The study groups (PWS and EOB) were subsequently divided into two subgroups based on the International Diabetes Federation criteria for the definition of MetS. Results showed that individuals with PWS had significantly lower ( $p < 0.001$ ) body weight (BW, -20.9%), height (-8.9%), fat-free mass (FFM, -23.5%), and fat mass (FM, -19.2%) in absolute terms compared to EOB subjects. However, the relative percentages of FFM and FM were similar. Absolute BMR was 25.5% ( $p < 0.001$ ) lower in the PWS group; however, this difference disappeared when adjusted for FFM or body weight (BW). Metabolic outcomes were broadly similar between the groups, except for higher fasting glucose (+7.3%) and HbA1c levels (+7.9%), and lower fasting insulin (-29.0%) in PWS patients.

Conclusions: Moreover, PWS subjects exhibited higher total cholesterol (+9.6%) and HDL-cholesterol (+19.8%), suggesting a more favourable lipid profile and no extra risk beyond severe obesity.

Se desidera avere la fotocopia di questo lavoro, per esclusivo uso personale, può fare richiesta per mail a: [info@cresceresani.it](mailto:info@cresceresani.it) indicando il titolo, gli autori, la rivista e il proprio recapito lavorativo (nome, cognome, indirizzo, CAP, città).