

## **Association between body mass index (BMI) and semen quality**

**69th American Society of Reproductive Medicine Annual Meeting, 12 a 17 de Outubro de 2013, Boston/ Massachusetts, Estados Unidos.**

**RODRIGUES, Jhenifer Kliemchen (BSc, MSc); VIEIRA, Fabiane de Souza (BSc); MORAES, Camila Cruz (BSc); FURTADO, Marcelo Horta (MD); COTA, Ana Márcia de Miranda (MD, MSc), CAETANO, João Pedro Junqueira (MD, MSc, PhD).**

---

Objective: The aim of this study was to explore the correlation between BMI and semen quality. Design: Retrospective study. Material and Methods: Analysis of 45 male patients who presented for clinical evaluation in our service in 2012. Of the total surveyed, 17 presented normal BMI (BMI <25 kg / m<sup>2</sup>) and 28 patients were diagnosed with overweight (BMI ≥ 25 kg/m<sup>2</sup>). Exclusion criteria were: previous treatment for infertility, use of drugs that can alter spermatogenesis, vasectomy, diagnosis of varicocele treated or not, cryptorchidism or clinical/surgical problems with risk for fertility, smoking and sexually transmitted diseases. The seminal parameters analyzed were: ejaculate volume, sperm concentration, percentage of progressive motile spermatozoa, morphology and BMI. For statistical analysis we used the Student's t test followed by Mann-Whitney test. Results: No difference was found between the analyzed parameters between the groups with BMI < 25 kg/m<sup>2</sup> or BMI ≥ 25 kg/m<sup>2</sup>, except BMI (22.4 vs. 28.7 - p <0.001). However there was a trend to decreased sperm concentration (55.3 M/mL vs. 26.4 M/mL - p = 0.06) and increased ejaculate volume (2.9 mL vs. 4.2 mL - p = 0.06) in patients with BMI ≥ 25 kg/m<sup>2</sup>. The mean values of motility (53% vs. 40%) and morphology (4% vs. 3%) also are decreased in this group compared to the group with BMI <25 kg/m<sup>2</sup>. Furthermore, it was found that the group with BMI ≥ 25 kg/m<sup>2</sup>, had a higher percentage of patients with semen parameters below the normal standards by the World Health Organization, compared to the group with BMI < 25 kg/m<sup>2</sup> (concentration < 15 M/m: 39% vs. 24%; motility < 32%: 39% vs. 12%; morphology < 4%: 73% vs. 53%). Conclusion: These results indicate that BMI may alter sperm quality, resulting in low sperm concentration, reduced motility and altered morphology. Suggest to increase the sample size to confirm these data.

Support: Pró-Criar Reproductive Medicine

Keywords: sperm quality, body mass index, obesity.