Method A cross-sectional study was conducted on 300 workers. Measurements of body mass index (BMI) and waist hip ratio (WHR) were obtained. BMI (m/kg^2) was classified into underweight (<18.5), normal range (18.5–24.9), pre-obese (25.0–29.9), obese class I (30.0–34.9), obese class II (35.0–39.9), and obese class III (≥40.0). Risk of metabolic complications (RMC) was considered high when WHR > 0.85 for women, and > 0.95 for men; and moderated between 0.80–0.85 for women and 0.90–0.95 for men. Analysis of variance (ANOVA) was applied for continuous variables, and χ² test for categorical variables.

Results The mean age (±SD) of the subjects was 28.7 (±8.9) yrs. In the sample, 51.7% were male. According to the BMI, 47.3% of participants were in the normal range, 35.3% pre-obese, and 15.7% showed obesity. According to the WHR, 30% were at high risk, and 28.6% at moderate risk for developing metabolic complications. The RMC (high and moderate) was significant more prevalent in women than in men, 77.5% vs 49.3%, (p < 0.0001). ANOVA yielded significant variation in different classifications between exposure groups (p = 0.82). In the neuropsychological tests of 72 workers, greater alteration was identified in the exposed group, only in the test of symbol and digits (p = 0.001), trail making B (p = 0.002), and test of digits (p = 0.003); the test of building with blocks resulted borderline (p = 0.07). In all tests except in the test of learning of Rey, the non-exposed showed better performance.

Conclusions Despite what has been achieved, it is important to follow up the erythrocytosis and the neuropsychological effects on all workers, in addition to start treatment to prevent complications. The perception of innocuousness of chronic exposure to CO in these workers must be avoided.