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Title: Comparison of respiratory muscle strength in diabetic and nondiabetic obese women

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Body: INTRODUCTION: Diabetes is a disease that can develop several complications such as muscle problems. Often, individuals with obesity develop diabetes, and when combined they can maximize the damage to both peripheral and respiratory muscle function. OBJECTIVE: To compare respiratory muscle strength in diabetic and nondiabetic obese women. METHODS: It was evaluated 38 morbidly obese women (BMI> 40 kg/m2), aged between 20 and 50 years, sedentary, nonsmokers without respiratory disease, and of these, 18 were diabetic and the other 20 were nondiabetic. It was recorded age, weight, height and waist and hip circunference. Respiratory muscle strength was evaluated by measuring the maximal static respiratory pressures - maximal inspiratory pressure (MIP) and maximal expiratory pressure (MEP) - expressed by absolute values and percentage values predicted. RESULTS: The diabetic and nondiabetic obese women were similar with respect to age (39.55 ± 9.69 vs 35.15 ± 5:39 years), BMI (43.45 ± 2.56 vs 43.26 ± 2:44 kg/m2) and waist / hip ratio (0.92 ± 0.07 vs 0.91 ± 12:08).). Respiratory muscle strength, represented by the MIP and MEP, was lower in patients with diabetes, for absolute values (MIP = 77.77 ± 22.89 vs 92.51 ± 19.96 cmH2O and MEP = 92.22 ± 22.11 vs 111.51 ± 36.16 cm H2O, p <0.05) and for the percentage of predicted values (MIP = 85.19 ± 23.66 vs 99.25 ± 21:36 and MEP = 100.33 ± 21.76 vs 118.36 ± 38.21, p <0.05). CONCLUSIONS: According to the results, the diabetic obese women have respiratory muscle strength, MIP and MEP, lower than nondiabetic obese women, demonstrating that diabetes is a condition that also contributes to the impairment of respiratory muscle strength in obese women.