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Muscular strength and function in patients with cystic fibrosis.

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Sahlberg ME, Svantesson U, Thomas EM, Strandvik B

Department of Pediatrics, Institute for the Health of Women and Children, Göteborg, Sweden. margareta.sahlberg@vgregion.se

BACKGROUND: For 20 years, physical activity has been an important component in the treatment of cystic fibrosis (CF) patients in Sweden. Data concerning physical performance in terms of muscular strength in these patients are limited **OBJECTIVE:** To compare muscular strength and function in patients with CF with those aspects in a healthy control group (CG). **DESIGN:** Thirty-three patients with CF (16 women) aged 16 to 35 years and 20 healthy individuals matched for age and gender were included in the study. All participants had undertaken regular physical training two to three times per week. The following tests were performed: vertical jumping ability; hand-grip strength; abdominal strength; arm/shoulder strength; quadriceps muscle strength; and a functional test of leg muscle endurance. **RESULTS:** Patients with CF showed decreased muscle strength and function compared to control subjects (women: maximal hand-grip strength in the right [p = 0.02] and the left hand [p = 0.001]; sustained hand-grip strength in the left hand [p = 0.002]; and in leg muscle endurance [p = 0.02]; men: the number of sit-ups performed within 30 s [p = 0.03]; and left leg isokinetic quadriceps strength at 180 degrees per second [p = 0.02]). The differences were not related to pancreatic or pulmonary function. There was no significant difference between the CF group and the CG in any other test results. **CONCLUSIONS:** Our study showed few differences in muscular performance between patients with CF and healthy control subjects. Both groups had regular moderate-to-high activity levels. Further studies are needed to evaluate whether the small but significant differences might be related to metabolic abnormalities in skeletal muscles in CF patients.

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