

The Effect of Spark Physical Program (Sports, Play and Active Recreation for Kids) on Quality of Life and Spirometry in 6-18-Year-Old Children with Cystic Fibrosis

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Abstract : Background: The effect of the SPARK physical education program on lung function in cystic fibrosis patients is not yet determined. SPARK is Sports, play and active recreation for kids, including moving skills, aerobic games, jogging or walking, aerobic dance and jump rope. Regarding the high prevalence of cystic fibrosis and its destructive effects on the lungs, the aim of this study is to evaluate lung function and quality of life before and after undergoing the SPARK physical education program in children with cystic fibrosis. Method: In this quasi-experimental study, all patients with cystic fibrosis aged 6-18 years referred to the cystic fibrosis clinic of Dr. Sheikh Hospital were enrolled. The patients went under 12 weeks of SPARK training program (3 sessions per week, each session 45 minutes). The quality of life questionnaire (Cystic Fibrosis Questionnaire includes self-examination, parental) for patients with cystic fibrosis and spirometry indices (FEV1, FVC, FEV1/FVC, FEF25-75) was filled out before and after intervention for all patients. Results The mean and standard deviation of patients' age were 9.85 ± 2.67 years, and 65% of patients were female. The FEV1 was significantly different before and after the SPARK physical education program ($P=0.03$), and the respiratory component of quality of life significantly increased after intervention ($P=0.002$). The overall score of quality of life from parents' point of view was 2.87 ± 0.38 , which increased to 2.99 ± 0.38 after the intervention. Conclusion: The SPARK training program may improve the spirometric parameters in children with cystic fibrosis. It also had a significant effect on improving the quality of life of patients, especially in the respiratory component.

Keywords : cystic fibrosis, pediatrics, SPARK motor program, spirometry

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