

Review Paper:

Effect of Forced Expiratory Volume in One Second (FEV1) on the Quality of Life of Children with Cystic Fibrosis



Farzad Masiha^{1*}, Rohola Shirzadi², Mohamad Reza Modaresi³

1. Pediatric Infectious Disease Research Center, Mazandran University of Medical Sciences, Sari, Iran.

2. Pediatric Respiratory and Sleep Medicine Research Center, Tehran University of Medical Sciences, Tehran, Iran.

3. Pediatric Respiratory and Sleep Medicine Research Center, Tehran University of Medical Sciences, Tehran, Iran.

ABSTRACT

Background: Cystic Fibrosis (CF) is the most important cause of chronic pulmonary disease in children and the main cause of exocrine pancreas failure in early life. The aim of this study was to determine the relationship between Forced Expiratory Volume in One Second (FEV1) and quality of life in patients with CF.

Methods: This cross-sectional study was conducted on 76 children with CF aged 7-14 years referred to the CF clinic of Tehran Medical Center in 2015. For data collection, quality of life, CF conditions and demographic information of children were recorded. Collected data were analyzed in SPSS V. 18 software using descriptive and inferential statistics (t-test, ANOVA and Chi-square test).

Results: Of 76 children, 59 were males and 41 female; 30-47% of them were newly diagnosed patients, 44% were relatives, and 55.3% had pulmonary symptoms at first diagnosis. There was no significant association between body mass index and FEV1. The quality of life of children was evaluated in terms of physical, emotional, social and educational performance. The Mean±SD FEV1 was 75.9±21.72, and there was a significant association between FEV1 and educational performance. Moreover, there was a significant correlation between reduction of oxygen saturation (SpO2) after performing 6-Min Walk Test (6MWT) and FEV1 reduction and also between the traveled distance, FEV1 and SpO2 before the 6MWT and mileage test.

Conclusions: Quality of life and 6MWT can be used as an auxiliary measure along with FEV1 and other criteria for assessing the cardiovascular function in CF patients. The amount of traveled distance and SpO2 before 6MWT were noticeable considering that the quality of life of CF patients in Iran is lower than in other countries. Health and treatment decisions at micro/macro levels is recommended to improve the quality of life of CF patients.

Keywords: Cystic fibrosis, Forced Expiratory Volume in One Second, Quality of life, pediatric disease, Chronic pulmonary disease
