Flexible fiberoptic bronchoscopy (FFB) is increasingly used for diagnostic, therapeutic and research purposes in children. We evaluated retrospectively FFB procedures in 1200 children in our unit between October 1998 and June 2007. We performed FFB in 666 boys and 534 girls with a mean age of 4.5 yrs (range, 14 days to 18 yrs). FFB was performed via nasal route in 284 and through the laryngeal mask airway in 916 children. Underlying disease was known in 35% of the patients; these were bronchiectasis, cystic fibrosis, immunodeficiency, bronchiolitis obliterans, congenital heart disease, asthma, pulmonary hypoplasia, malignancy, bronchopulmonary dysplasia, collagen vascular and neuromuscular disease.

Persistent atelectasis (29%), recurrent or persistent pneumonia (21%) and bronchiectasis (20%), were the most common indications. FFB was performed in 73 (6%) cystic fibrosis patients. Stridor, recurrent or persistent wheezing, chronic cough, interstitial lung diseases, localised hyperlucent lung area, haemoptysis, suspected foreign body and pulmonary alveolar proteinosis (PAP) were the other indications of FFB. Transbronchial biopsy was performed in 4 patients, 2 of whom were diagnosed to have a malignant tumor (T-cell lymphoma and carcinoid tumor). The most common FFB finding was infection which was characterized with bronchial mucosal hyperemia and purulent secretions (46%). Malacic airway diseases (16.2%), tracheal and bronchial abnormalities (6.5%), endobronchial-tracheal lesions (4%), foreign body aspiration (1.3%), pharyngeal dyskinesia, subglottic stenosis, vascular ring, tracheooesophageal fistula were the other findings. One patient who diagnosed PAP was treated with bronchoscopic lung lavages, twelve times. Bronchoscopic findings of 21% of the patients were normal. Macroscopic findings detected FFB led to the final diagnosis and changed first therapy in 11% of children. Bronchoalveolar lavage was performed in 1070 patients, microbiologic and cytologic investigations were evaluated. Minor complications were transient mild hypoxia in 328 children during process, major complications were severe hypoxia (n=32) and bleeding (n=2), which were causes for cessation of FFB. Pneumothorax developed in 4 children a few days later after bronchoscopy.

FFB is a safe and valuable procedure when it is done by skilled bronchoscopists and supplies early diagnosis and clarifies pathogenesis of diseases by revealing anatomic, functional, microbiologic and cellular pathologies as well as treats of the rare pulmonary diseases.