

# THE IMPACT OF SOME HEALTH RELATED FACTORS ON VOCAL SYMPTOMS AND VOICE QUALITY IN CHILDREN

E. Kallvik<sup>1</sup>, J. Savolainen<sup>2</sup>, V. Peltola<sup>2,3</sup>, L. Toivonen<sup>2,3</sup>, S. Simberg<sup>1,4</sup>

<sup>1</sup>Åbo Akademi University, <sup>2</sup>University of Turku, <sup>3</sup>Turku Child and Youth Research Institute (Cyri), <sup>4</sup>University of Oslo

ekallvik@abo.fi

The background of dysphonia is multifactorial and in previous studies, health related factors, personality traits, and environmental factors have been indicated to have an influence on voice quality and vocal symptoms. When striving for prevention, the factors that are possible to affect are health and environment related. The most common symptom of respiratory tract infection is cough. Cough causes repeated laryngeal trauma due to the mechanical forces involved. The upper and lower airways are increasingly being viewed as an integrated system and if one part is affected by inflammation, it is likely that this has an impact on the whole system. In adults, it is likely that inhalant allergy is associated with dysphonia and vocal symptoms. The results of a previous study with adult participants with asthma, the voice quality parameters grade, roughness and breathiness were more affected than for the control group and their maximum phonation time was shorter. Inhaled corticosteroids that are used for treating respiratory symptoms can also have a negative effect on the voice quality. There are more studies on vocal risk factors for adults than for children, however, the results of these studies have to be applied to children with caution. Separate studies with child participants are necessary since the anatomy and physiology of the vocal and respiratory tract in children is not a scaled down copy of the adult version.

The data material was collected from two populations. The first population consisted of 108 participants aged 9 months to 17 years 1 month that were new patients at an allergy clinic. The data was collected through paper questionnaires filled in when they first visited the clinic. The second population consisted of 4 year old children ( $n = 1\ 827$ ) that participated in the multidisciplinary Steps to Healthy Development Study (the STEPS study). This data material was collected through a systematic follow-up beginning during pregnancy followed by six times during the first two years of the child's life and thereafter every year. In addition to this, data from a health condition diary (filled in by the parents), causes for physician visits and test results from pharyngeal swab tests were used.

The impact of asthma, allergy and respiratory tract infections on voice quality and vocal symptoms will be presented and discussed. Additionally, the effect of seven different respiratory viruses on voice quality will be presented.