Title

Objective Evaluation of Daily Near Activities Distance in Progressive Myopic Children

Authors
Burcu Nurözler Tabakcı, Cafer Tanrıverdi, Aylin Kılıç, Michael Mrochen

Purpose

The aim of this study is to evaluate the behaviour of children with progressive myopia objectively. In this way, it is aimed to prevent the behaviour that may lead to progression in patients with myopia.

Setting

Consenting participants were enrolled for testing in a pilot study after signing Informed Consent. Participants underwent training on the Visual Behaviour Monitor (VBM) by research personnel. After training, participants used the VBM during their daily routine for 3-5 days (e.g. at home, in the school, hobbies). Doctors accessed the data reports via a web-based interface.

Methods

The Visual Behaviour Monitor (VBM) is a wearable sensor system which helps doctors and patients to understand reasons for myopic progression in an objective and non-obtrusive way. Patients with myopic progression of more than 1 diopters in a year were included in the study. Participant were advised to use the VBM for at least 3 days. All data were analyzed. In the study, close distance was defined between 0-50 cm, intermediate distance was between 50-100 cm, far distance was 100 cm and above. Factors that may be effective in progression in myopia patients and possible solutions were investigated.

Results

A total of 30 patients completed the study according to the study criteria. Mean age of myopic children is 11.4±2.7 years. According to these results, in 83% percent of patients, close working time was more than 45% of the total time spent in the day. This study showed us that the near distance activity of progressive myopic children is quite high. VBM device helped us to better analyze the progression of myopia in children objectively. This study is based on initial data. More objective results will be achieved in the future with increasing participation.