

# European Society of Ophthalmology



**Name: PINAR ALTIAYLIK OZER, MD**  
**European Leadership Development Program Class of 2021-2023**  
**Project Abstract**

The European Society of Ophthalmology requests a brief abstract of the project that each EuLDP participants has worked on during the program. The compiled abstracts will be included on the SOE website and will be given to incoming EuLDP classes as background material. Please e-mail your abstract to E-mail: [secretariat@soevision.org](mailto:secretariat@soevision.org)

*Please include the headings if appropriate: **Title, Purpose, Methods, Results and Conclusion***

***Title of Project:***

**Short term efficacy of a newly developed smart phone/tablet application (Can-Eye) as a visual stimulation tool on cognitive and visual development for children with low vision**

***Pinar A. Ozer, MD, FEBO, FICO***

***Associate Professor of Ophthalmology, Ankara, Turkey***

***drpinar@yahoo.com***

**Purpose:** The aim of this project is to introduce and detect the effectiveness of a newly developed smartphone/tablet application on visual motor integration in babies with low vision.

Children aged under 36 months with visual impairment in both eyes are planned to be referred to a developmental programme, carried by the occupational therapists. The programme includes use of a smartphone/tablet application called Can-Eye for the purpose of visual rehabilitation. **This application was mainly designed and initiated before the COVID-19 pandemic, as a home-rehabilitation programme for the use of families in need. But now it can be described as a**

**form of tele-medicine which can serve as a supportive tool for disabled children, who cannot reach the health care provider due to the restrictions of the pandemic.**

**Methods:**

Can-Eye application consists of 3 modules, with increasing capability of visual stimulation for the child. Each module of the application is suggested to be applied for one month, preferably three times in a week. Participants are required to attend a minimum of 10 sessions per month. Time spent on the application per day can be checked by the designer after the therapy. with the help of a designer control panel.

Subjects are planned to be evaluated at the end of a three months-rehabilitation programme, by using the Test of Sensory Functions in Infants (TSFI)-developed to evaluate sensory functions in infants between 4-18 months- by DeGangi and Greenspan at 1989. A five-factor model (Response to Tactile Deep Pressure, Adaptive Motor Functions, Visual-Tactile Integration, Ocular-Motor Control and Response to Vestibular Stimulation) will be applied to all participants-at baseline and follow-up. Mann Whitney U and Kruskal Wallis-H scores will be used to analyze the significance of effect of infants' multiple variables on calculated total scores and scores for every subtest. Each subject will be classified as normal, with risk or insufficient in terms of sensory functions depending on the scores acquired by the test before or after the rehabilitation programme with the application. Higher scores indicate better sensory functions. Results of the analysis will be presented at the end of the Project.

**Results and Conclusion:** Although there is limited literature for now, regarding the use of smart devices (phones/tablets) in pediatric occupational therapy for low vision, new technology definitely seems to guide the future implications. **It is obvious that, during these days of COVID-19 pandemic, urgent solutions are needed to provide 'remote' health care to some medical problems of the population who cannot reach medical care at hospitals. This remote health care may include selected occupational therapy modalities which can be applied by use of tele-medicine at home.**

This newly developed tool for the visual stimulation in low vision babies is a novel method for assisting visual rehabilitation in selected cases, but further studies are needed to monitor its long term restorative effect on visual skills in pediatric population.

**Keywords:** Can-Eye smart phone/tablet application, visual rehabilitation, low vision child, occupational therapy

**Financial Disclosure:** None of the participants or the project designers have any financial interests with any of the material or tools described in the study.