# Abstract of Clinical evaluation of extended depth of focus intraocular lenses after cataract surgery using selected parameters

Purpose:

The aim of the doctoral dissertation was to assess clinical and functional parameters after implantation of extended depth of focus intraocular lens of different optical design.

Materials and methods:

A retrospective analysis was carried out with the assessment of clinical and functional parameters after cataract surgery with the simultaneous implantation of the Mini Well or the Symfony extended depth of focus intraocular lenses in the Independent Public Clinical Ophthalmological Hospital and at the Laser Ophthalmological Clinic between January 2017 and February 2020 and the Vivity extended depth of focus intraocular lens in at the Laser Ophthalmological Clinic between January 2021 and March 2022. 32 patients (64 eyes) had Mini Well intraocular lenses implanted, 29 patients (58 eyes) had Symfony lenses implanted. The follow up period was 6 months. 45 patients (71 eyes) had Vivity lenses implanted. The follow up period was 3 months.

 Results:

In the Mini Well and Symfony groups a statistically significant improvement of uncorrected and corrected distance visual acuity was obtained, these values were slightly better in the Symfony group. Uncorrected and corrected intermediate and near distances visual acuity was slightly better in the Mini Well group. Statistically significant improvement of distance visual acuity was achieved in patients with Vivity implants. Uncorrected and corrected visual acuity of intermediate and near distances was very good. Dysphototopsias occurred more often in the Symfony group, and the least dysphototopsias occurred in Vivity lens group. In all groups high independence from glasses was achieved, glasses correction was sometimes used to read fine print in poor light conditions. Responding to the questions in the VF-14 and VFQ-25 questionnaires, patients showed a high level of satisfaction and high quality of life after implantation of these extended depth of focus intraocular lenses.

Conclusions:

Extended depth of focus lenses both diffractive and non-diffractive: Mini Well, Symfony and Vivity turned out to be a very good solution for patients who lead an active life, work professionally, and at the same time want to become independent from glasses after cataract surgery and drive at night with moderate dyphotpsias. Extended depth of focus intraocular lenses can be addressed to a larger group of patients compared with multifocal lenses.