



## Glaucoma Weeks and Glaucoma Screening/Prevention – part 2

### Nedelje glaukoma i skrining/prevencija glaukoma – 2. deo

#### To the Editor:

Glaucoma is a common name for a group of eye diseases also called optic neuropathy. It is a chronic, incurable disease that can, nevertheless, be kept under control with regular monitoring and treatment. Glaucoma represents a unique, currently significant social health problem of all societies<sup>1</sup>. Glaucoma is the second most common cause of blindness in the world and affects about 80 million people. About 118 million people have a predisposition to get glaucoma by 2040, of which over four and a half million are blind. Even 50% of people do not know they have glaucoma<sup>2</sup>. In Serbia, about 150,000 people have this disease<sup>2-5</sup>. The Glaucoma Weeks are an opportunity to draw the attention of the public to the seriousness of this disease, which leads to blindness if it is not diagnosed and treated on time, as well as to the risk factors for the occurrence of glaucoma, methods of prevention, and treatment options<sup>3</sup>.

The primary objective of fighting against glaucoma is to take action in order to recognize and acquaint the general population with the emphasized importance of regular, ophthalmological controls in the mission of preventing blindness, to which untreated and uncontrolled glaucoma surely leads<sup>4</sup>. The second objective, no less important, is to

recall the numerous, archived, and successfully held actions in the past – the Weeks of the Fight against Glaucoma as part of the worldwide action and the Weeks of the Fight against Glaucoma at our University Clinical Center Kragujevac, Serbia, at the Clinic for Ophthalmology (each year in March, in the duration of five days)<sup>5</sup>.

To achieve our objectives, we observed a 16-year period, from 2008 to 2024, and collected the data we needed. We separated the observation period into two parts: 2008–2017, the first part, and 2018–2024, the second part. The program of Glaucoma Screening at the University Clinical Center Kragujevac included 1,392 people in the first part and 2,417 in the second part. If we compare the two parts of the observation period, we can see that glaucoma was more present in women ( $n = 907$  vs.  $n = 1,691$ ) than in men ( $n = 485$  vs.  $n = 726$ ). Concerning age, there were people aged 15–49 years ( $n = 326$  vs.  $n = 635$ ) and 50–84 years ( $n = 1,030$  vs.  $n = 1,782$ ). Previously, the largest increase in newly discovered glaucoma cases was recorded in 2017 for men and persons aged 49, and in 2024, the increase reached 429 persons (261 women and 168 men), 67 of them aged 15–49, and 362 of them aged 50–84 years (Figure 1). Older age is statistically significantly associated with glaucoma ( $p = 0.018$ ). Female gender is also statistically significantly associated with glaucoma ( $p = 0.045$ ). During the year 2023,

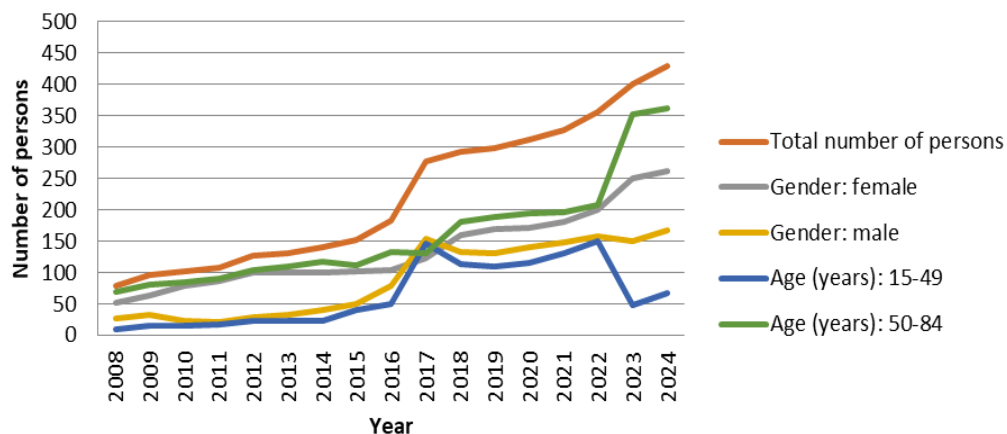
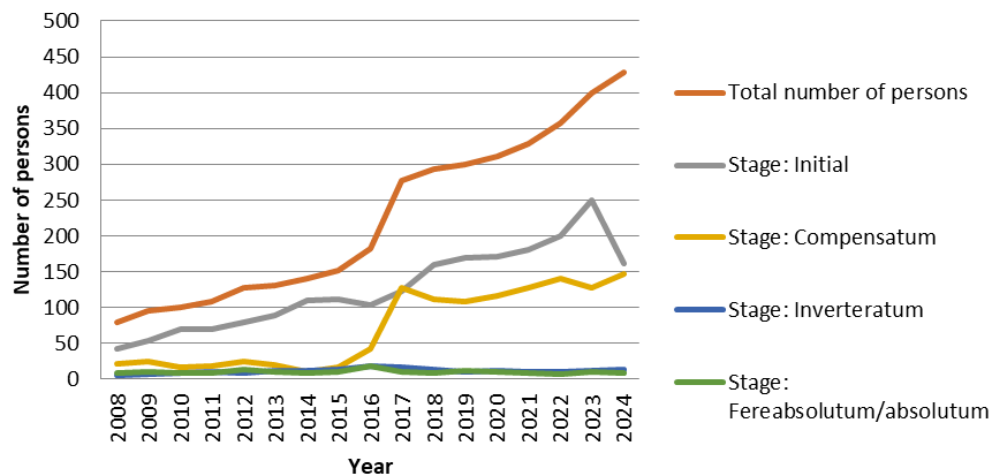


Fig. 1 – Number of persons by gender and age screened for glaucoma during the Glaucoma Weeks in the previous 17 years (2008–2024).

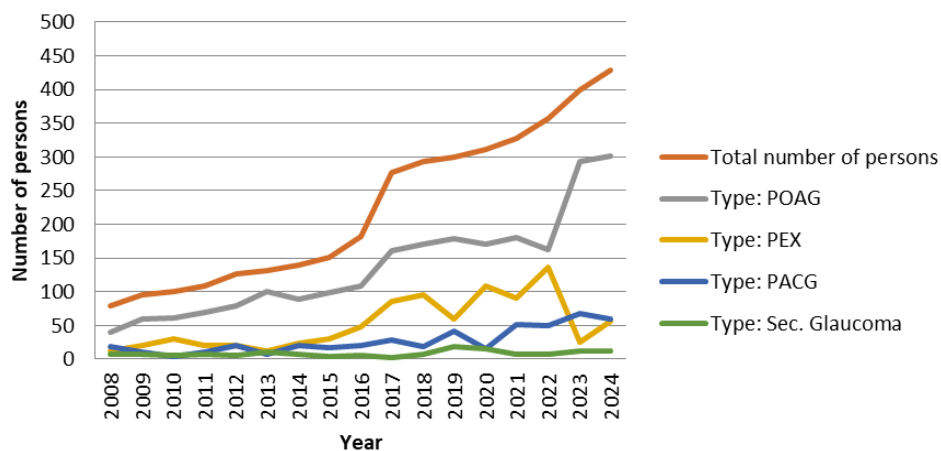
400 individuals were examined, mostly women. The prevailing age group was 50–84 years, with ten newly diagnosed glaucomas. During the first half of 2024, a total of 429 individuals were observed, predominantly females also, most of them in the age group from 50–84 years (median age 55.1 years), and 14 new glaucoma cases were diagnosed, with further necessary diagnostic and therapeutic procedures at the Clinic for Ophthalmology, University Clinical Center Kragujevac. The prevalence of newly discovered or newly diagnosed glaucoma was 2.113%. Every calendar year, the number of persons for glaucoma screening increases. Our results showed that the number of persons increased linearly every year, from 79 persons in 2008 to 270 persons in 2017 (a 3.4-fold increase), and in 2023/24, there was a 3.7–4.1-fold increase of persons compared to 2008. The number of newly discovered glaucomas in the initial phase, compared to the number of newly discovered ones in the terminal stages of the disease, has increased significantly every year, especially in the last seven years of the current program and actions of the Glaucoma Weeks in our country. A total

of 869 (20.19%) individuals were identified as having suspected glaucoma (2008–2024), of which 317 (16.25%) had to undergo a further and more detailed ophthalmological examination in order to diagnose glaucoma. During the year 2024, the following were recorded: 261 glaucomas in the initial stage of development, 147 glaucomas in the developmental (manifest-compensatum) stage of development, 13 glaucomas in the neglected (inverteratum) stage, 8 glaucomas in the stage of pre-blindness (fereabsolutum) and blindness (absolutum) (Figure 2). The number of glaucoma types confirmed and/or recorded during the first half of 2024 by gonioscopy and fundus examination were as follows: a) primary open-angle glaucoma (POAG) – 302 patients, b) pseudoexfoliative (PEX) glaucoma – 56 patients (separated from PEX syndrome), c) primary closed-angle glaucoma (PCAG) – 59 patients, and d) secondary glaucoma – 12 patients (Figure 3).

In conclusion, the weeks of the fight against glaucoma in our country stood out and were confirmed through many years of practice, profession, and science, justifiably



**Fig. 2 – Number of persons classified by stage of glaucoma during the Glaucoma Weeks in the previous 17 years (2008–2024).**



**Fig. 3 – Number of persons by gonioscopy (type of glaucoma) screened for glaucoma during the Glaucoma Weeks in the previous 17 years (2008–2024).**

POAG – primary open-angle glaucoma; PEX – pseudoexfoliative; PACG – primary closed-angle glaucoma; sec. glaucoma – secondary glaucoma.

highlighting the public importance of the necessary knowledge and skills that can be applied today in the prevention, diagnosis, and treatment of glaucoma. Successful cooperation between healthcare institutions and the media can be a useful way of increasing awareness and detecting individuals with an increased risk of developing glaucoma, as well as the necessary controls of already diagnosed glaucoma. Screening and preventive examinations by an ophthalmologist will help detect the disease at the right time, keep it under control, and focus it in a targeted manner through actions of Weeks of Fight Against Glaucoma. Continuous medical implementation of these programs

would benefit our society as a whole based on health, social, and economic levels.

**Katarina M. Janičijević\***, **Tatjana Šarenac Vulović<sup>†‡</sup>**,  
**Dušan Todorović<sup>†‡</sup>**, **Jovana Srejić<sup>†‡</sup>**  
**Katarina Čupić<sup>†‡</sup>**, **Mihailo Jovanović<sup>†‡</sup>**  
**University of Kragujevac, Faculty of Medical Sciences,**  
**\*Department of Social Medicine, <sup>†</sup>Department of**  
**Ophthalmology, Kragujevac, Serbia; <sup>‡</sup>University Clinical**  
**Center Kragujevac, Clinic for Ophthalmology,**  
**Kragujevac, Serbia**

#### R E F E R E N C E S

1. *Casson RJ, Chidlow G, Wood JP, Crowston JG, Goldberg I.* Definition of glaucoma: clinical and experimental concepts. *Clin Exp Ophthalmol* 2012; 40(4): 341–9.
2. *Wolfram C.* The Epidemiology of Glaucoma - an Age-Related Disease. *Klin Monbl Augenheilkd* 2024; 241(2): 154–61.
3. *Lee SS, Mackey DA.* Glaucoma - risk factors and current challenges in the diagnosis of a leading cause of visual impairment. *Maturitas* 2022; 163: 15–22.
4. *Schuster AK, Erb C, Hoffmann EM, Dietlein T, Pfeiffer N.* The Diagnosis and Treatment of Glaucoma. *Dtsch Arztebl Int* 2020; 117(13): 225–34.
5. *Jančićević K, Šarenac-Vulović T, Kocić S, Radovanović S, Radević S, Jančićević-Petrović M.* Glaucoma weeks and glaucoma screening/prevention. *Vojnosanit Pregl* 2018; 75(5): 531–2.

Received on April 24, 2024  
Revised on May 20, 2024  
Accepted on May 28, 2024  
Online First July 2024