

Garo Meghrigian Institute for Preventive Ophthalmology 2022 Annual report

Mission: Prevent Avoidable Blindness



Source: <https://www.ndcfsfoundation.org/ending-avoidable-blindness>

Prepared by:

Aida Giloyan, MPH
Senior Researcher and Operations Manager, Meghrigian Institute

Varduhi Petrosyan, MS, PhD
Director, Avedisian Onanian Center for Health Services Research and Development
Dean, Turpanjian College of Health Sciences

July 2023
Yerevan, Armenia

Executive Summary

In 1999, Mr. Garo Meghriqian of Los Angeles funded a Blindness Prevention Program in Armenia in memory of his daughter, Christine Hripsime. With a generous gift from the Meghriqian family, the Garo Meghriqian Institute for Preventive Ophthalmology (Meghriqian Institute) was established within the Avedisian Onanian Center for Health Services Research and Development at AUA's Turpanjian College of Health Sciences. Meghriqian Institute's mission is to prevent avoidable blindness in Armenia.

This Annual Report highlights the main activities and accomplishments of the Meghriqian Institute in 2022. Meghriqian Institute celebrated World Sight Day 2022, this year realizing its eye screening program for patients with diabetes living in Armenia's Kotayk province. The program aimed to decrease visual impairment through provision of comprehensive ophthalmic examinations and distribution of spectacles and medication to those in need.

The staff of the Meghriqian Institute carried out eye screenings in Abovyan, Hrazdan, Charencavan, and Yeghvard cities of Kotayk province. Overall, the team screened 573 people 25 to 102 years old. The team took blood samples from 201 diabetic patients to measure their average level of blood glucose over the past three months (HbA1). The Meghriqian Institute distributed 566 spectacles to those who were identified as having uncorrected refractive errors and unaddressed presbyopia and provided medication to 350 people diagnosed with eye diseases.

October 13-15, Senior Researcher Aida Giloyan (MPH '07) of the Garo Meghriqian Institute for Preventive Ophthalmology in the Zvart Avedisian Onanian Center for Health Services Research and Development of the American University of Armenia (AUA), was competitively selected to be one of the presenters at the European Association for Vision and Eye Research (EVER) Congress 2022. EVER is the leading ophthalmological research association in Europe covering all areas of ophthalmology and the visual sciences. Aida Giloyan made a poster presentation on ["The impact of visual impairment and other risk factors on health-related quality of life among people living in retirement homes in Armenia"](#). As her study indicates, the presence of chronic non-communicable diseases, lack of physical activity, sleeping disorders, lack of emotional and instrumental support, presence of depressive symptoms, and uncorrected refractive error are all associated with worse health-related quality of life. The abstract was published in Acta Ophthalmologica.

During October and November 2022, the Meghriyan Institute with assistance from the Republic of Armenia Ministry of Labor and Social Affairs, implemented an eye-screening program for socially vulnerable children. This year, the staff of the Meghriyan Institute implemented the program at the Ajapnyak Children's Social Care Center in Yerevan, the Children's Support Center of the Fund for Armenian Relief in Yerevan, and Child and Family Support Centers in Shirak and Lori provinces, all of which serve socially vulnerable children. Overall, 362 children were screened, along with 27 adults who had limited access to ophthalmic services. In December 2022, the Meghriyan Institute distributed eyeglasses to 57 children in need, and 56 children, diagnosed with eye diseases, received medication from the Meghriyan Institute.

MPH graduate student Lusine Atoyan completed her thesis project with the assistance of Meghriyan Institute in May 2022. She proposed a case-control study on risk factors associated with retinopathy of prematurity in Armenia. The proposed study aimed to identify the association between human milk feeding and retinopathy of prematurity (ROP) and other possible risk factors associated with ROP among preterm infants in Armenia. A pilot study, conducted among 24 participants, found that the proportion of exclusive breastfeeding was 22% in controls versus 7% in cases. The details of the proposed study are presented [here](#).

In 2022 the research team of the Meghriyan Institute worked on a number of manuscripts. Some of them are in the journal submission stage, while others are in progress.

The Meghriyan Institute continued its partnership with the Lions Regional Ophthalmic Unit in Sevan, established earlier through the joint efforts of the Meghriyan Institute and the Ararat Lions Club (ALC), and funded by the Lions Club International Foundation-LCIF.

Lions Regional Ophthalmic Unit in Sevan, Gegharkunik province served around 3,509 visits, and 1,264 people and performed 646 surgeries in 2022. Meghriyan Institute conducted eye screenings among 962 people in Armenia in 2022: 362 children and 600 adults. Overall, Meghriyan Institute distributed 621 free eyeglasses and provided medication to 406 people in 2022.

Introduction

In 1999, Mr. Garo Meghriqian of Los Angeles funded a Blindness Prevention Program in Armenia in memory of his daughter, Christine Hripsime. With a generous gift from the Meghriqian family, the Garo Meghriqian Institute for Preventive Ophthalmology (Meghriqian Institute) was established within the Avedisian Onanian Center for Health Services Research and Development at the Turpanjian College of Health Sciences, American University of Armenia. In partnership with local experts, the Meghriqian Institute seeks to assess and characterize the burden of eye diseases in Armenia, promote preventive measures such as screenings, develop professional and public awareness through educational programs, and help increase the local health system's capacity to effectively identify and prevent vision disorders before they lead to blindness.

The main objectives of the Meghriqian Institute are to:

- Conduct scientific investigations of ophthalmic epidemiology to increase understanding of eye diseases in the community;
- Link ophthalmologic services with expertise in organizing, financing, and delivery of services to increase the utilization of ophthalmologic care in Armenia;
- Educate eye care providers and the general public on scientific advances in detecting, preventing, and treating eye disease and in translating these advances into nationwide clinical practice;
- Establish an ophthalmic care and prevention network to expand service delivery to underserved populations in need of affordable, accessible, and high-quality eye care services for the prevention and treatment of blindness at all levels;
- Develop partnerships with organizations that are interested in blindness prevention and are capable of furthering the achievements of Meghriqian Institute's goal;
- Train future professionals for blindness prevention activities in Armenia;
- Establish a regional blindness prevention network for the Caucasus, emphasizing underserved areas and minority populations.

Starting 2004, the Meghriqian Institute has also been sponsoring a fellowship program to encourage Armenian ophthalmologists to combine population-based prevention activities with clinical ophthalmology, as part of the Master of Public Health program at AUA.

Vision loss, or blindness, is a major public health problem. The leading causes of chronic blindness include cataract, glaucoma, age-related macular degeneration, and diabetic retinopathy. Blindness decreases the quality of life and has a great impact on the socioeconomic development of individuals and society. The Meghri Institute's activities include eye screenings and treatment for socially vulnerable children and older adults, for patients with diabetes living in Armenia and for family members of fallen soldiers living in Artsakh and Armenia; delivering educational programs to ophthalmologists, ophthalmic nurses, endocrinologists, primary health care providers, and school nurses working in rural areas of Armenia; donating ophthalmic equipment to ophthalmic offices of primary care facilities; and establishing high-quality ophthalmic services, such as the Lions Regional Ophthalmic Unit, established in Sevan, Gegharkunik province. The Meghri Institute founded this unit in partnership with the Ararat-1 Lions Club and with funding from the Lions Club International Foundation. The establishment of this center was the first step in expanding affordable, accessible, and high-quality ophthalmic service delivery to underserved populations, and serves as a model regional ophthalmic system in Gegharkunik province. The Unit has served around 54,562 visits, 23,172 people, and performed 7,361 surgeries for free or at a cost much lower than in Yerevan. In addition, the Meghri Institute has conducted eye screenings among socially disadvantaged children and adults in Armenia and Artsakh, and ophthalmic research among different population groups, including people with glaucoma, cataract surgery, and diabetes.

This report highlights the main activities and accomplishments of the Meghri Institute in 2022.

Activities and accomplishments

1. Love Your Eyes: Garo Meghrigian Institute for Preventive Ophthalmology Celebrates World Sight Day 2022

The Garo Meghrigian Institute for Preventive Ophthalmology (Meghrigian Institute) of the American University of Armenia (AUA) Turpanjian College of Health Sciences (CHS) celebrated World Sight Day 2022, this year realizing its eye screening program for patients with diabetes living in Armenia's Kotayk province. The program aims to decrease visual impairment through the provision of comprehensive ophthalmic examination and the distribution of spectacles and medication to those in need.

World Sight Day is an annual day of awareness held on the second Thursday of October to focus global attention on blindness and vision impairment. This year, it was celebrated on October 13 with the theme Love Your Eyes, as declared by the International Agency for the Prevention of Blindness. The Love Your Eyes global campaign calls on individuals to take care of their eye health and on leaders to ensure eye care is accessible and affordable to everyone everywhere. This year, the staff of the Meghrigian Institute carried out eye screenings in Abovyan, Hrazdan, Charencavan, and Yeghvard cities of Kotayk. Overall, the team screened 573 people 25 to 102 years old. The team took blood samples from 201 diabetic patients to measure their average level of blood glucose over the past three months (HbA1). Through the rest of October 2022, the Meghrigian Institute distributed 566 spectacles to those who were identified as having uncorrected refractive errors and unaddressed presbyopia and provided medication to 350 people diagnosed with eye diseases. The team also referred those who had eye diseases needing hospital care to specialized ophthalmic centers for more advanced medical treatment. In addition to conducting screenings, the Meghrigian Institute provided the participants with brochures and booklets containing valuable information on diabetes proper management and prevention of complications, including diabetic retinopathy.



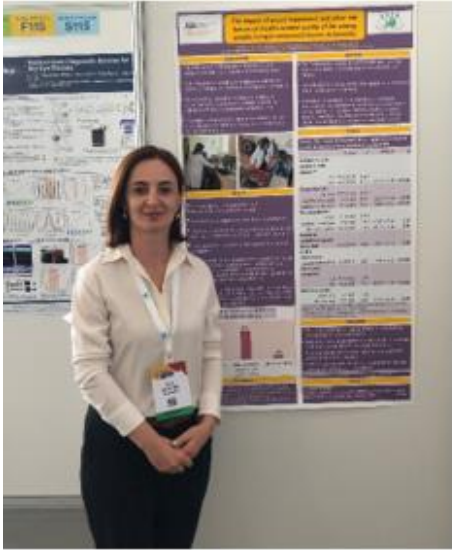
2. CHS Researcher Participates in European Association for Vision and Eye Research Congress 2022

October 13-15, Senior Researcher Aida Giloyan (MPH '07) of the Garo Meghriyan Institute for Preventive Ophthalmology in the Zvart Avedisian Onanian Center for Health Services Research and Development of the American University of Armenia (AUA), was competitively selected to be one of the presenters at the European Association for Vision and Eye Research (EVER) Congress 2022. EVER is the leading ophthalmological research association in Europe covering all areas of ophthalmology and the visual sciences. Among the association's main activities is the research meeting organized annually. EVER aims to promote different aspects of research and dissemination of knowledge concerning the eye and vision through publications, exchange of information, and meetings.

Aida Giloyan made a poster presentation on the impact of visual impairment and other risk factors on health-related quality of life among people living in retirement homes in Armenia. As her study indicates, the presence of chronic non-communicable diseases, lack of physical activity, sleeping disorders, lack of emotional and instrumental support, presence of depressive symptoms, and uncorrected refractive error are all associated with worse health-related quality of life. Blindness was found to be significantly associated with physical health-related limitations, while uncorrected refractive error was found to have an inverse relationship with general health. The study found a high prevalence of uncorrected refractive errors, visual impairment, and blindness among people in retirement homes. The author suggests that regular eye screening programs and distribution of spectacles could improve eye health in the target population. A focus on people with chronic non-communicable diseases and depressive symptoms is warranted.

The abstract will be published in EVER Congress website and in *Acta Ophthalmologica* online journal in January 2023. The reference to the abstract is provided below.

Giloyan A, Babayan A, Harutyunyan T, Petrosyan V. The impact of visual impairment and other risk factors on health-related quality of life among people living in retirement homes in Armenia. Acta Ophthalmologica, 2022; 100: S267, doi: <https://doi.org/10.1111/j.1755-3768.2022.0138>



3. Meghrigian Institute Provides Eye Care to Socially Disadvantaged Children

During October and November 2022, the Garo Meghrigian Institute for Preventive Ophthalmology (Meghrigian Institute) of the American University of Armenia (AUA) Turpanjian College of Health Sciences, with assistance from the Republic of Armenia Ministry of Labor and Social Affairs, implemented an eye-screening program for socially vulnerable children. The initiative aims to decrease visual impairment in the target population through the provision of comprehensive ophthalmic examination and consultation, and distribution of eyeglasses and medication to those in need.

This year, the staff of the Meghrigian Institute implemented the program at the Ajapnyak Children's Social Care Center in Yerevan, the Children's Support Center of the Fund for Armenian Relief in Yerevan, and Child and Family Support Centers in Shirak and Lori provinces, all of which serve socially vulnerable children. Overall, 362 of 410 children from the target population were screened, along with 27 adults who had limited access to ophthalmic services.

In December 2022, the Meghrigian Institute distributed eyeglasses and medication to children in need. Fifty-seven children who were diagnosed with refractive errors received eyeglasses, and 56 children diagnosed with eye diseases, including infectious and allergic conjunctivitis, blepharitis, keratitis (keratopathy), retinopathy, and accommodation spasm, received medication from the Meghrigian Institute. Those who had other eye conditions requiring hospital care were referred to specialized centers for further examination.

“We hope to decrease avoidable visual impairment among socially vulnerable children in Armenia. Existing evidence suggests that about 7%–31% of childhood (under 15 years old) blindness and visual impairment could be avoided,” stated Aida Giloyan, senior researcher at the Meghrigian Institute.



4. MPH graduate student completed a thesis project with the assistance of Garo Meghriyan Institute for Preventive Ophthalmology

MPH graduate student Lusine Atoyan completed her thesis project with the assistance of Meghriyan Institute in May 2022. She proposed a case-control study on risk factors associated with retinopathy of prematurity in Armenia. The proposed study aimed to identify the association between human milk feeding and retinopathy of prematurity (ROP) and other possible risk factors associated with ROP among preterm infants in Armenia. A pilot study, conducted among 24 participants, found that the proportion of exclusive milk feeding was 22% in controls versus 7% in cases. The details of the proposed study are presented [here](#).

5. Meghriyan Institute worked on manuscripts

In 2022 the research team of the Meghriyan Institute worked on a number of manuscripts. Some of them are in the journal submission stage, while others are in progress.

- **Manuscript 1:** *Nationwide Rapid Assessment of Avoidable Blindness (RAAB) in Armenia.* This study aimed to estimate the prevalence and main causes of blindness and visual impairment in the population aged 50 years and older in Armenia using the Rapid Assessment of Avoidable Blindness (RAAB) methodology. This manuscript was in the review stage by the Journal of Ophthalmic Epidemiology.
- **Manuscript 2:** *Cataract blindness in Armenia: The results of Rapid Assessment of Avoidable Blindness survey.* This study assessed the prevalence of cataract blindness, effective cataract surgical coverage, visual outcome after cataract surgery, and barriers to cataract surgery in the population aged 50 years and older in Armenia using the Rapid Assessment of Avoidable Blindness (RAAB) methodology. This manuscript was in the review stage by the Journal of Ophthalmic Epidemiology.
- **Manuscript 3:** *Risk factors associated with visual impairment among people aged 50 years and older in Gegharkunik province of Armenia: Rapid Assessment of Avoidable Blindness Survey.* This study assessed the association of smoking, alcohol consumption, physical activity, and several socio-demographic and health status-related factors with visual impairment among 50 years and older adults in the Gegharkunik province of Armenia. This manuscript was in progress.

- **Manuscript 4:** *The prevalence and associated risk factors of age-related cataract among people aged 50 years and older in Gegharkunik province of Armenia.* This study assessed the prevalence of age-related cataract and associated risk factors among the population aged 50 years and older in Gegharkunik province of Armenia using the Rapid Assessment of Avoidable Blindness (RAAB) methodology. This manuscript was in progress.
- **Manuscript 5:** *The prevalence and associated risk factors of Computer Vision Syndrome (CVS) during the Covid-19 pandemic among the students of the American University of Armenia.* This study aimed to assess the prevalence of CVS and explore factors contributing to it among the students of the American University of Armenia (AUA). This manuscript was submitted to the Journal of Public Health.
- **Manuscript 6:** *Health-related quality of life after cataract surgery in Armenia: a cross-sectional study.* This study explored the health-related quality of life and factors associated with it after cataract surgery among patients of Lions Regional Ophthalmic Unit in Armenia. This manuscript was in the journal submission stage.
- **Manuscript 7:** *Migraine Headache and other risk factors associated with Glaucoma among the adult population living in Armenia: a case-control Study.* This study aimed to assess the association between migraine headache and high-tension and normal-tension glaucoma among the adult population living in Armenia. This manuscript was in the journal submission stage.
- **Manuscript 8:** *The impact of visual impairment and other factors on health-related quality of life among people living in retirement homes in Armenia.* This study aimed to examine the effect of visual impairment, eye diseases, and other factors on health-related quality of life in retirement home residents in Armenia. This manuscript is under review by the Journal of Disability and Rehabilitation.
- **Manuscript 9:** *The Impact of Refractive error correction on Health-related Quality of Life and Depression in nursing home residents in Armenia.* This study assessed the impact of refractive error correction with spectacles on health-related quality of life and depression through baseline and follow-up comparison. This manuscript is in progress.

7. Meghriqian Institute: 2022 in numbers

Lions Regional Ophthalmic Unit in Sevan, Gegharkunik province served around 3,509 visits, and 1,264 people and performed 646 surgeries in 2022. Meghriqian Institute conducted eye screenings among 962 people in Armenia in 2022: 362 children and 600 adults. Overall, Meghriqian Institute distributed 621 free eyeglasses and provided medication to 406 people in 2022.