

Garo Meghriyan Institute for Preventive Ophthalmology 2018 Annual Report



Mission: Prevent Avoidable Blindness

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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 School of Public Health. 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 2018. In June 2018, Meghriqian Institute concluded the project, which provided eye care to patients with diabetes in the Armavir province of Armenia. Meghriqian Institute successfully provided free ophthalmic examinations and eyeglasses to diabetic patients with restricted access to ophthalmic services and provided education regarding diabetes management and diabetic retinopathy prevention.

From April to December 2018, the Meghriqian Institute conducted its annual eye screening program among socially vulnerable children, and children with visual impairment and with hearing disorders. Overall, 314 children and 69 family members from the selected centers were screened. Children, diagnosed with refractive errors such as nearsightedness, farsightedness, and astigmatism, received spectacles and children, diagnosed with eye diseases, received medical assistance from the Meghriqian Institute.

In April 2018, Meghriqian Institute applied to the SightFirst Research Grant -2018 supported by the Lions Club International Foundation (LCIF), with the research proposal "Nationwide epidemiological survey among people aged over 50 using Rapid Assessment of Avoidable Blindness (RAAB) methodology." In August, Meghriqian Institute received notification about the successful application of SightFirst Research Grant and in September 2018, the Meghriqian Institute has started the implementation of this project.

In August 2018, Meghrigian Institute launched an eye screening project among family members of deceased freedom fighters and fallen soldiers in Armenia with assistance from the “Goyamart” National Charitable Union and the Ministry of Defense of the Republic of Armenia. The staff of the Meghrigian Institute carried out eye screenings in Yerevan, Shirak, Lori, Tavush and Armavir provinces from August to November, 2018. The Meghrigian Institute plans to continue the project covering all other remaining provinces of Armenia in the coming years.

The Meghrigian Institute celebrated World Sight Day 2018 in Hadrut, Artsakh, providing eye screenings to family members of deceased freedom fighters and fallen soldiers, as well as disabled freedom fighters and disabled soldiers and their family members. The World Sight Day (WSD) is a global event held on the second Thursday of October each year. It aims at bringing attention to blindness and vision impairment. This year, the WSD theme was “Eye Care Everywhere.”

The research team of the Meghrigian Institute presented the study on “Uncorrected refractive error and associated risk factors among socially vulnerable older adult population living in Armenia” at the European Association for Vision and Eye Research (EVER) Congress in Nice, France held in October 2018. The abstract was published in the journal of Acta Ophthalmologica in 2018.

Each year Meghrigian Institute organizes outreach visits to different regions of Armenia and Artsakh as part of its activities. Outreach visits aimed to provide detailed ophthalmic examinations to those who have low access to ophthalmic services. In 2018, Meghrigian Institute organized outreach visits to Lori, Armavir, Tavush and Shirak regions, and Artsakh. In total, 298 people underwent ophthalmic examinations.

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

Meghrigian Institute provided eye screenings to 380 children and 1,264 adult patients in Armenia and Artsakh, and distributed 1,236 free eye glasses to the population in need during 2018.

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 Turpanjian School of Public Health, American University of Armenia. In partnership with local experts, the Meghriqian Institute seeks to assess and characterize the burden of eye diseases in Armenia, to promote preventive measures such as screenings, to develop professional and public awareness through educational programs, and to 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 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 the future professionals for blindness prevention activities in Armenia;
- Establish a regional blindness prevention network for the Caucasus, emphasizing underserved areas and minority populations.

Since 2004, the Meghriyan 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 quality of life and has a great impact on the socio-economic development of individuals and society. The Meghriyan Institute's activities include eye screenings and treatment for socially vulnerable children and older adults, for patients with diabetes living in provinces of 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 a high quality ophthalmic services, such as the Lions Regional Ophthalmic Unit, established in Sevan, Gegharkunik province. The Meghriyan 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 38,852 visits, 17,841 people and performed 4,678 surgeries for free or at a cost much lower than in Yerevan. In addition, the Meghriyan 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 Meghriyan Institute in 2018.

Activities and accomplishments

1. Garo Meghrigian Institute for Preventive Ophthalmology completed eye screening program among patients with diabetes in Armavir province of Armenia

In June 2018, Garo Meghrigian Institute for Preventive Ophthalmology (Meghrigian Institute) of the American University of Armenia (AUA)'s Turpanjian School of Public Health completed the eye screening program among patients with diabetes living in Armavir province of Armenia. The primary aim of this program was to provide free ophthalmic examination to patients with diabetes, who have low access to ophthalmic services, and to distribute spectacles as needed. The secondary aim was to increase the awareness about diabetes management and diabetic retinopathy prevention among the target population through dissemination of educational materials.

The staff of the Meghrigian Institute visited three major cities of Armavir province, namely Echmiadzin, Armavir, and Metsamor, and their adjacent villages, Nalbandyan, Parakar, Aghavnatun, Geghakert, Guy, Arevik, Armavir, and Aragats, from October 2017 to June 2018. A total of 838 patients with diabetes and 78 patients from the general population with low access to ophthalmic services were screened. Patients who were diagnosed with some type of refractive errors or presbyopia received spectacles from the Meghrigian Institute and those who were diagnosed with conditions that need hospital care were referred to the nearest hospital for further treatment. Overall, 870 spectacles were distributed for free to the participants in need and over 2,000 educational materials on diabetes management and diabetic retinopathy prevention were delivered among patients with diabetes and the general population. Meghrigian Institute will continue this program visiting other provinces of Armenia in the coming years.



2. Meghrigian Institute continues working with socially disadvantaged children and children with specific health issues

From April to December 2018, the Garo Meghrigian Institute for Preventive Ophthalmology (Meghrigian Institute) of the American University of Armenia (AUA)'s Turpanjian School of Public Health (SPH) conducted its annual eye screening program among socially vulnerable children, and children with visual impairment and with hearing disorders. The staff of the Meghrigian Institute visited several institutions in Yerevan: the Yerevan Special Educational Complex for Children with Hearing Disorders which serves 129 children, the Child and Family Support Center which has 89 beneficiaries, Achapnyak Social Care Center which serves 110 children and the Nikoghayos Tigranyan Special School N 14 for Children with Visual Impairments which has 77 children.

Overall, 314 children and 69 family members from the selected centers were screened. Thirty four children, diagnosed with refractive errors such as nearsightedness, farsightedness, and astigmatism, received spectacles and six children, diagnosed with eye diseases, received medical assistance from the Meghrigian Institute. Twenty three children with visual impairment from Nikoghayos Tigranyan Special School will receive spectacles in early 2019.



3. Nationwide epidemiological survey among people aged over 50 using Rapid Assessment of Avoidable Blindness (RAAB) methodology

In April 2018, Meghriqian Institute applied to the SightFirst Research Grant - 2018 supported by the Lions Club International Foundation (LCIF), with the research proposal “Nationwide



**Lions Clubs International
FOUNDATION**

epidemiological survey among people aged over 50 using Rapid Assessment of Avoidable Blindness (RAAB) methodology.” The LCIF SightFirst program strengthens eye care systems in underserved communities enabling them to fight blindness and vision loss and assist those who are blind or visually impaired.

This study aims 1) to estimate the prevalence of ocular morbidity and its potential causes, and vision loss due to cataract and other major causes among population aged 50 and over in the Republic of Armenia using the RAAB methodology and 2) to evaluate the effectiveness of the innovative public health approach implemented in Gegharkunik province of Armenia between 2003 and 2018 (an intervention supported by a LCIF/SightFirst grant in 2003-2008 that has provided high quality cataract surgery to underserved populations) in reducing cataract related ocular morbidity and vision loss. The objectives of this nationwide epidemiological survey are

- a) To estimate the prevalence and magnitude of severe visual impairment (SVI), moderate visual impairment (MVI), early visual impairment (EVI) and blindness in the target population;
- b) To determine the causes of visual impairment (SVI, MVI and EVI) and blindness;
- c) To estimate the prevalence of visual impairment (SVI, MVI and EVI) and blindness due to cataract;
- d) To estimate the prevalence of uncorrected refractive error and uncorrected presbyopia;
- e) To assess the prevalence of aphakia and/or pseudophakia;
- f) To assess cataract surgical coverage and barriers to cataract surgery;
- g) To assess quality of cataract surgery through estimating visual outcome after cataract surgery and cause of poor outcome after surgery;
- h) To assess cataract surgical services;
- i) To compare RAAB survey results with the RACSS in Gegharkunik province of Armenia.

In August, Meghriqian Institute received notification about the successful application of SightFirst Research Grant and in September 2018 Meghriqian Institute has started the implementation of this project. The 2-year nationwide epidemiological survey covers all provinces of Armenia including Yerevan through conducting eye screenings among around 3,500 people aged 50 and over.

4. Meghriqian Institute applied to the Grant Assistance for Grassroots Human Security Projects (GGP)

In June 2018, Meghriqian Institute applied to the Grant Assistance for Grassroots Human Security Projects (GGP) announced by the Japan Embassy of Armenia. Meghriqian Institute applied to this grant to obtain portable and modern ophthalmic equipment for its upcoming projects. In September, Meghriqian Institute received notification on rejection of this grant.

5. Meghriqian Institute launched an eye screening project among family members of deceased freedom fighters and fallen soldiers in Armenia

In August 2018, Meghriqian Institute launched an eye screening project among family members of deceased freedom fighters and fallen soldiers, as well as disabled freedom fighters and disabled soldiers and their family members in Armenia with assistance from “Goyamart” National Charitable Union and the Ministry of Defense of the Republic of Armenia. The aim of this project was to provide comprehensive ophthalmic examination to the target population and provide spectacles and medication to those in need. This project has aimed to cover all provinces of Armenia including capital city (Yerevan).

During August-November, 2018, the staff of the Meghriqian Institute carried out eye screenings in Yerevan, Shirak, Lori, Tavush and Armavir provinces covering 490 people from the target population and 137 people from the general population. Overall, 141 people from Yerevan, 125 people from Shirak, 230 from Lori, 48 from Tavush and 83 from Armavir participated in the project. Meghriqian Institute distributed 592 spectacles to those who were diagnosed with any type of refractive errors. A total of 105 people diagnosed with eye diseases received medication for treatment by Meghriqian Institute. The severe cases were referred to the nearest hospital for advanced care. Meghriqian Institute plans to continue the project covering all other remaining provinces of Armenia in the coming years.

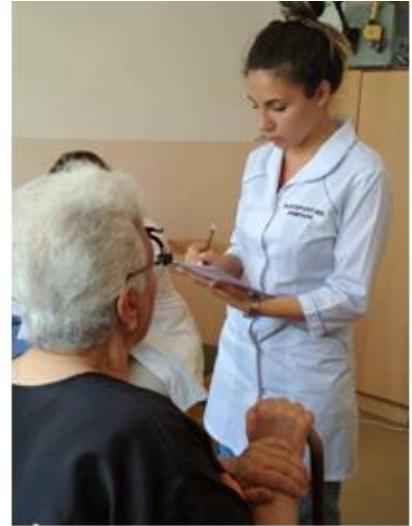


6. World Sight Day 2018: Meghrigian Institute Conducts Eye Screenings in Hadrut

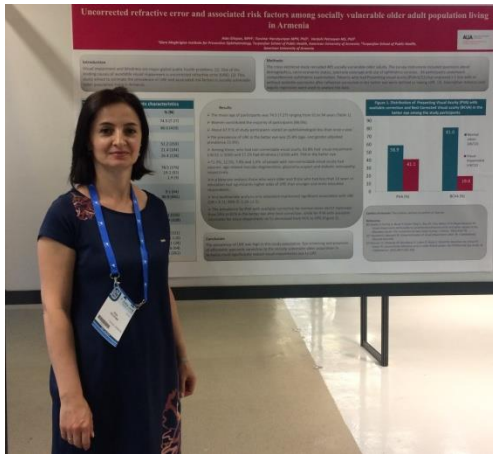
The Meghrigian Institute, AUA Turpanjian School of Public Health (SPH), celebrated the World Sight Day 2018 in Hadrut, Artsakh, providing eye screenings to family members of deceased freedom fighters and fallen soldiers, as well as disabled freedom fighters and disabled soldiers and their family members. The World Sight Day (WSD) is a global event held on the second Thursday of October each year. It aims at bringing attention on blindness and vision impairment. This year, the WSD theme was “Eye Care Everywhere.”

The Meghrigian Institute organized World Sight Day 2018 in Hadrut with the assistance of the “Goyamart” National Charitable Union and the Ministry of Health of the Republic of Artsakh. The event aimed to decrease visual impairment among the target population through comprehensive ophthalmic examination and distribution of spectacles and medication to those in need.

In Hadrut, the staff of the Meghrigian Institute carried out 362 eye screenings. Among those screened, 294 were family members of deceased freedom fighters and fallen soldiers or disabled freedom fighters and disabled soldiers and 68 others with limited access to medical care. Following screening, the Meghrigian Institute distributed 330 spectacles to those who were diagnosed with refractive errors and provided medication to 78 people diagnosed with eye diseases. Those with eye conditions requiring hospital care were referred to specialized centers for advanced care.



7. Meghriyan Institute at the European Association for Vision and Eye Research (EVER) Congress 2018



October 4-6, Aida Giloyan (MPH '07), Senior Researcher at the Garo Meghriyan Institute for Preventive Ophthalmology (GMIPO) of Avedisian, Onanian Center for Health Services Research and Development (CHSR) of the American University of Armenia (AUA) participated in the European Association for Vision and Eye Research (EVER) Congress 2018.

As the largest European scientific organization of ophthalmology and visual sciences, EVER aims to encourage research in the field and the dissemination of knowledge concerning eye and vision through high quality research discourse, publications, and exchange of information. EVER covers subspecialties ranging from epidemiology to optics, the cornea, the retina, immunology and genetics.

Giloyan made a rapid fire presentation on “Uncorrected refractive error and associated risk factors among socially vulnerable older adult population living in Armenia” and participated in a poster presentation session of the EVER Congress. The results of her research have revealed that the prevalence of uncorrected refractive errors is high in the population studied. She has found that older age and low educational level are significantly associated with uncorrected refractive errors.

The abstract of this study was published in the fall issue of *Acta Ophthalmologica*. The reference to the abstract is provided below.

Giloyan A, Harutyunyan T, Petrosyan V. Uncorrected refractive error and associated risk factors among socially vulnerable older adult population living in Armenia. Acta Ophthalmologica. Volume 96, Issue S261, 12 December 2018,

https://doi.org/10.1111/aos.13972_163

8. Meghriqian institute organized outreach visits to regions of Armenia and Artsakh

Each year Meghriqian Institute organizes outreach visits to different regions of Armenia and Artsakh as part of its activities. Outreach visits aimed to provide detailed ophthalmic examinations to those who have low access to ophthalmic services. In 2018, Meghriqian Institute organized outreach visits to Lori, Armavir, Tavush and Shirak regions, and Artsakh. In total, 298 people underwent ophthalmic examinations. All patients diagnosed with eye diseases received medical consultation. In addition, patients having eye disorders which needed surgical intervention or hospital care, were referred to the nearest hospital for further diagnosis and treatment.

9. Meghriqian Institute: 2018 in numbers

Meghriqian Institute conducted eye screenings among 380 children and 1,264 adult patients in Armenia and Artsakh in 2018. Overall, Meghriqian Institute distributed 1,236 free eye glasses and provided medication to 188 people in 2018.