



AMERICAN UNIVERSITY OF ARMENIA
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Center for Health Services Research and Development

**Garo Meghrian Institute
for Preventive Ophthalmology**

2010 Annual Report

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Executive Summary

The Garo Meghrigian Institute for preventive Ophthalmology (Meghrigian Institute) is part of the Center for Health Services Research and Development (CHSR) of the College of Health Sciences of the American University of Armenia (AUA). **Meghrigian Institute's mission is to prevent avoidable blindness in Armenia.**

This Annual Report highlights the main activities and accomplishments of the Meghrigian Institute in 2010.

To celebrate the World Sight Day on October 14, 2010, Meghrigian Institute organized eye screenings among socially vulnerable school children to detect visual impairments and eye diseases and offer medical assistance. Eye screenings were conducted in the Social Care Center for children of Achapnyak Community, “Mary Ismirlyan” orphanage and “Kharberd” specialized orphanage in the fall 2010.

On December 2010 Meghrigian Institute of Preventive Ophthalmology organized a 2-day training course on “Prevention, Diagnosis and Treatment of Ophthalmic Diseases at the Primary Health Care Level” in Gegharkunik marz. The training course was designed for the primary health care (PHC) providers and was carried out at the Lions Regional Ophthalmic Unit (ROU) in Sevan. Fourteen participants were from Tchambarak, Vardenis, and Sevan of Gegharkunik marz.

Meghrigian Institute in collaboration with the Sevan ROU organized regular outreach visits in villages of Gegharkunik and Tavush marzes with specific focus on the most remote and poor communities. Outreach visits were organized to detect eye pathologies among adult population who have low access to ophthalmic services.

Meghrigian Institute will continue eye screenings among socially vulnerable children and outreach visits to rural communities of Gegharkunik and Tavush marzes. It aims to conduct research on the major risk factors for refractive errors development in Yerevan and Gegharkunik marz and to implement a program on prevention of blindness and visual impairment in Gegharkunik marz through early detection of diabetic retinopathy.

Introduction

The Garo Meghrigian Institute for preventive Ophthalmology (Meghrigian Institute) is part of the Center for Health Services Research and Development (CHSR) of the College of Health Sciences of the American University of Armenia (AUA). **Meghrigian Institute's mission is to prevent avoidable blindness in Armenia.**

The main objectives of Meghrigian Institute are:

- Conduct scientific investigations of ophthalmic epidemiology to increase understanding of eye disease 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 Meghrigian 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.

This Report of Garo Meghrigian Institute for Preventive Ophthalmology highlights the main activities and accomplishments of the Meghrigian Institute in 2010.

Activities and accomplishments

1.1 Observance of World Sight Day, October 14, 2010

Eye screenings among socially vulnerable school children in Armenia

World Sight Day is an annual event that occurs on the second Thursday in October. The aim is to raise public awareness around the world for prevention and treatment of eye problems. This year the focus was on equal access to eye health care.

To celebrate the World Sight Day on October 14, 2010, Meghrigian Institute organized eye screenings among socially vulnerable school children to detect visual impairments and eye diseases and offer medical assistance. In September, Meghrigian Institute completed work in the

Social Care Center for children of Achapnyak community in Yerevan. Detailed eye screening was carried out among 112 school children (6-17 years old). On October 14, Meghriqian Institute conducted screenings in “Marry Ismirlyan Orphanage”, where live 75 school children. Out of 75, 63 children were participated to the screening; others had mental disorders with different severity. Eye screening activities were continued in “Kharberd Specialized Orphanage”, where 158 children live and they all had special health needs. Meghriqian Institute organized screenings and provided appropriate medical assistance to children with detected visual impairments or eye diseases.

Visual impairment and avoidable blindness among children have become a global public health problem, because they cause disability, suffering, and loss of productivity. Children live in blindness for many years due to preventable causes like Vitamin A deficiency, congenital or traumatic cataract, untreated infections, and unidentified refractive errors: nearsightedness, farsightedness and astigmatism. Majority of visual impairments can be easily diagnosed and corrected at early age to avoid further complications; that is the objective of Meghriqian Institute’s screening program.



1.2 Details of the Eye Screenings

Eye screenings were conducted in the Social Care Center for children of Achapnyak Community, “Mary Ismirlyan Orphanage” and “Kharberd Specialized Orphanage”.

The *goal* of Eye Screening Program was to conduct basic and detailed eye screening among socially vulnerable school children to detect visual impairments and eye diseases and provide appropriate medical assistance to children with eye pathologies. The objectives were:

- Organize and implement free basic eye examination followed by detailed eye examination with focus on detection of refractive errors (nearsightedness, farsightedness, and astigmatism), strabismus, and other eye diseases in the target group.
- Prescribe and distribute eye glasses or medication to children in need.
- Refer children with eye problems to a secondary care facility for treatment in case of necessity.
- Increase public awareness regarding visual impairments among socially vulnerable children.

Social Care Center for children of Achapnyak Community

The total number of school children (6-18 years old) for screening was 123. Out of 123 participants 112 completed the interviews. Out of 11 non-participants four children were not in Yerevan, two refused to have cycloplegic refraction and the remaining five (all adolescents) refused to participate.

The prevalence of eye diseases and refractive errors among children from the Social Care Center was 24.1% (27 children), 21 of them had refractive errors (RE) such as myopia, hypermetropia and astigmatism, three had strabismus, and five had eye diseases such as seasonal allergic or bacterial conjunctivitis and chalazion. The Meghriqian Institute prescribed and provided eye glasses to 11 children with RE and provided medication to six children who had eye diseases. Only one child was referred to a specialized eye clinic for more in depth examination.

Mary Ismirlyan Orphanage

Fifty nine school children, aged 5 to 13, were screened in Mary Ismirlyan Orphanage. All children were willing to participate. It was not possible to perform vision acuity test and to identify refraction errors for 4 children out of 59 because of having mental disorders. One child with low vision refused to have cycloplegic refraction.

Eye pathologies were detected among 16.9% (10) of the children from Mary Ismirlyan Orphanage. Four of them had refractive errors, seven had different types of eye diseases, and two had strabismus. Some children with refractive error had eye diseases as well.

The Meghriqian Institute prescribed and provided glasses to three children with RE and provided medication for seven children, who had different types of eye diseases. After treatment additional eye examination was carried out to diagnose RE among children with eye diseases. Two children were identified having RE after the treatment; they also received eye glasses.

Kharberd Specialized Orphanage

Overall, 44 participants completed the interviews in Kharberd specialized orphanage. As the age of people living in Kharberd orphanage was 6 years and above, and many of them had different level of mental disorders, the project covered different age group of people and all those for whom it was possible to perform eye examination. It was not possible to perform vision acuity test and to identify refraction errors for two children out of 44. In some cases when it was impossible to apply vision acuity test, the ophthalmologist performed eye fundus examination and based on that made recommendations.

The prevalence of eye pathologies was 84.1 % (37 people) in the group from Kharberd orphanage, 21 of them had refractive errors and 13 had different types of eye diseases including seasonal allergic or bacterial conjunctivitis, cataract, glaucoma, pthosis and subathrophia. More than half of the observed children, 24 had strabismus. Concomitant convergent and concomitant divergent types of strabismus were more prevalent in this group.

At Kharberd specialized orphanage glasses were prescribed and provided to 10 people with RE. Two children who had eye diseases got an appropriate treatment. The Meghriqian Institute covered one-year medication expenses for two children from Kharberd orphanage who had glaucoma and had to receive continuous treatment.



1.3 Ophthalmic Trainings

Ophthalmic Trainings in Gegharkunik Marz

On December 18-19, 2010 Meghriqian Institute of Preventive Ophthalmology organized a 2-day training course on “Prevention, Diagnosis and Treatment of Ophthalmic Diseases at the Primary Health Care Level” in Gegharkunik marz. The training course was designed for the primary health care (PHC) providers and was carried out at the Lions Regional Ophthalmic Unit (ROU) in Sevan. The 14 participants were from Tchambarak, Vardenis and Sevan of Gegharkunik marz.

Dr. Varsik Hakobyan, Ophthalmic Consultant of Meghriqian Institute, covered the following topics during the training: anatomy and physiology of eyes, main eye diseases, eye injuries, and diagnostic and treating procedures in ophthalmology; she also covered prevention of eye diseases.

The training course had a specific focus on eye diseases such as glaucoma and diabetic retinopathy. The PHC providers of Gegharkunik marz refreshed their theoretical knowledge and practical skills in ophthalmology.

At the end of the training course, all participants received a brochure about basics of ophthalmology and Sivtsev chart; they also received certificates from the Meghriqian Institute in recognition of successful completion of the course.

All the participants were very pleased with the 2-day training and expressed their gratitude to the organizers and especially to the instructor Dr. Varsik Hakobyan for her comprehensive and dedicated teaching.



1.4 Outreach activities in Tavush and Gegharkunik marz

Meghriqian Institute of Preventive Ophthalmology in collaboration with the Lions Regional Ophthalmic Unit (ROU) in Sevan organized outreach visits in villages of Gegharkunik and Tavush marzes with specific focus on the most remote and poor regions in both marzes. Outreach visits were organized to detect eye pathologies among adult population who have low access to ophthalmic services. The village population was informed about the aim of outreach visit and invited for eye screening. Two outreach visits were completed in December, 2010.

First visit was carried out in **Tchambarak (Gegharkunik marz)** on December 9, 2010. Overall, 42 people participated in the eye screening. Out of 42, 10 patients were referred to the ROU in Sevan for cataract surgery. Glasses were prescribed for 21 patients. Second outreach visit was implemented in **Haghartsin (Tavush marz)** on December 16. Out of 33, 10 patients were referred for cataract and ambulatory surgery to the ROU in Sevan. Glasses were prescribed for 13 patients. Different eye pathologies were identified among 15 patients: conjunctivitis (chronic & allergic), glaucoma and fundus problems.

The ophthalmologist of ROU diagnosed patients having eye pathologies and gave proper consultation. Some patients underwent cycloplegic refraction for more detailed examination. Eye pressure was measured among patients who were diagnosed to have glaucoma. Glasses were prescribed and frames were distributed to the patients with refractive errors or presbyopia. Patients with eye diseases received proper consultation in terms of medical treatment. In case of having other than refractive error the ophthalmologist of the Meghriqian Institute referred the residents of these villages for detailed diagnosis and/or treatment to the ROU in Sevan.





Plans for 2011

Meghriqian Institute will continue its work with the socially vulnerable children to help them avoid further eye complications through early detection of eye pathologies.

As the older population from remote marzes of Armenia still has low access to the ophthalmic services, Meghriqian Institute will continue outreach visits in Gegharkunik and Tavush marzes focusing on border and poor rural communities.

Meghriqian Institute aims to conduct research on investigation of risk factors for refractive errors development in Yerevan and Gegharkunik marz and implement the program among diabetes patients on prevention of visual impairment and blindness in Gegharkunik marz through early detection of diabetic retinopathy.

In collaboration with the National Institute of Health in Armenia, the Meghriqian Institute will organize continuous medical education courses for all ophthalmologists and ophthalmic nurses working in Gegharkunik marz.