The aim of this research is to present an optimized plan for organizing the prevention, early detection and treatment of genetically determined eye problems. Materials and methods. The study focuses on the process of prevention, detection and treatment of hereditary eye pathology. Specifically, it addresses issues related to the timely detection of genetically determined ophthalmic diseases leading to patient disability. The study included patients of the Acad. Zarifa Aliyeva National Centre for Ophthalmology, Baku. The study employs patient survey, analytical mapping, and statistical processing of the findings obtained. Results. Genetically determined pathology of the eye occurs quite often, this problem is most common in those countries where the percentage of consanguineous marriages is high. In some cases, hereditary pathology causes disability from early childhood. The correct approach to the problem of detecting the presence of abnormalities in early pregnancy, timely diagnosis and treatment in many cases helps to avoid the birth of children with genetic abnormalities and preserve the vision of sick patients. The organization of assistance to this category of population is multi-staged and involves various organizations not related to health care. An important role is played by the level of financial capabilities and the state of medical institutions, as well as the qualifications of the staff. The first stage of assistance to the population is to identify a risk group. At stage 2, a genetic study of the foetus is carried out in mothers included in the risk group. During stage 3, dynamic control is exercised over the newborn child from a risk group. Stage 4 is the organization of medical and surgical care for patients. The creation of a clear system of informing and helping patients with genetic abnormalities will reduce the number of visually impaired people. Conclusion. Thus, it is necessary to create a clear system of medical and preventive care for children with genetic abnormalities. Only the joint work of social services and doctors of different specialties can lead to successful results in providing care to this group of patients. Key words: ophthalmology, hereditary diseases, genetics.

Introduction
Genetically determined pathology of the eye is quite common [1, 2]. According to the literature, this problem is the highly prevalent in those countries where the percentage of related marriages is high [1-7]. In some cases, hereditary pathology causes disability from the early childhood [1, 2, 5, 8]. The correct approach to the problem of detecting the presence of abnormalities in early pregnancy, timely diagnosis and treatment in many cases helps to avoid the birth of children with genetic abnormalities and preserve the patient's vision. The group of pathologies of the visual organ associated with genetic abnormalities is very diverse. Isolated eye diseases and combined lesions isolated into syndromes are distinguished [1, 2, 4, 9, 10, 11, 12, 13, 14]. Retinal dystrophy, congenital cataract, glaucoma, corneal dystrophy are the most often diagnosed.

The purpose of the work
The research aims at proposing an optimized plan for organizing the prevention, early detection and treatment of genetically determined eye problems.

Materials and methods
The study focuses on the process of prevention, detection and treatment of hereditary eye pathology. Specifically, it addresses issues related to the timely detection of genetically determined ophthalmic diseases leading to patient disability. The study included patients of the Acad. Zarifa Aliyeva National Centre for Ophthalmology, Baku. The study employs patient survey, analytical mapping, and statistical processing of the findings obtained.

Results and discussion
Statistical processing of the findings from the Disability Commission of the National Centre of Ophthalmology showed that the overwhelming number of visual disabilities occurs as a result of hereditary pathology. Every year, parents of more than 2000 patients apply to the Commission on Child Disability of the Zarifa Aliyeva NCO. The analysis of the appeal rate for 2019-2022 showed that in 73.9% of cases, hereditary pathology is diagnosed in this group of subjects (Table).

<table>
<thead>
<tr>
<th>Genetically determined pathology</th>
<th>Unrelated pathology</th>
</tr>
</thead>
<tbody>
<tr>
<td>pathology of refraction</td>
<td>27%</td>
</tr>
<tr>
<td>pathology of the anterior segment</td>
<td>21%</td>
</tr>
<tr>
<td>pathology of the fundus</td>
<td>25,9%</td>
</tr>
<tr>
<td>Genetically determined pathology</td>
<td>26,1%</td>
</tr>
<tr>
<td>Unrelated pathology</td>
<td>26,1%</td>
</tr>
</tbody>
</table>

Table: The main causes of disability in children in Azerbaijan

DOI 10.31718/2077–1096.23.3.12
UDC 617.7-053.8 (479.24)
Sultanova M.M.1, Hasanova R.M.2, Agayeva A.M.1

ORGANIZATION OF PREVENTION, EARLY DETECTION AND TREATMENT OF GENETICALLY DETERMINED OPHTHALMOLOGICAL PROBLEMS IN AZERBAIJAN

1Azerbaijan State Institute of Advanced Medical Training named after A. Aliyev, Department of Ophthalmology, Azerbaijan, Baku
2National Centre of Ophthalmology named after Acad. Zarifa Aliyeva, Azerbaijan, Baku
The majority of these patients are represented by visually impaired individuals who receive lifelong support from the state. It is evident from experience that parents are not always aware of the factors leading to the birth of affected offspring. Timely education and awareness among young people could, in many instances, prevent marriages among carriers of pathological genetics.

The organization of assistance to this category of individuals is multi-staged and requires support from various organizations that are not related to healthcare. An important role is played by the level of financial capabilities and the state of medical institutions, as well as the qualifications of staff.

It is advisable to allocate several stages of early detection and assistance to patients with genetically determined pathology of the visual organ.

**Stage 1. Identification of the risk group.**
- The risk group should include, first of all, young people entering into consanguineous marriages.
- It is necessary to identify geographically the regions of the country in which the pathology under study is most often observed. The population of these areas should also be included in the risk group.
- It is necessary to take under observation couples who have already had children with a genetically determined pathology.

There is no doubt that the more often young people who are carriers of a pathological gene create families, the more sick children are born later. Despite the fact that the topic of related marriages has been actively discussed in society in recent decades, the situation remains critical.

The formation of a risk group is carried out by those specialists who take part in the creation of a young family, in the supervision of patients. The workload is distributed among social workers, obstetricians, neonatologists, and narrow specialists.

At this stage, it is very important to adhere to a number of practical measures:
1. Early diagnosis of the foetus and newborn.
2. Informing parents about the possibility of having a child with a genetic pathology.
3. Timely referral to specialized specialists.

**Stage 2.** Carrying out a genetic study of the foetus in mothers included in the risk group.

At this stage, it is very important to identify pathologies that need to be identified in the foetus. To do this, it is necessary to collect a complete history of parents for the presence of hereditary pathologies in 3 generations. If there is a sick child in the family, it is necessary to conduct a genetic analysis of the patient. Further, with subsequent pregnancies of the mother, it is necessary to exclude a similar heredity in the foetus. It is also necessary to take into account the prevalence of this or that pathology in the regions of the country. This approach enables to regulate the number of newborns with genetic diseases.

**Prospects for Further Research:**

It is important to focus on diminishing the incidence of visual impairment and visual disabilities by implementing a comprehensive system for timely information dissemination, prevention, early detection, and medical care for individuals with genetic diseases.
Організація профілактики, раннього виявлення та лікування генетично обумовлених офтальмологічних проблем в Азербайджані

Султанова М.М., Гасанова Р.М.*, Агаєва А.М.

Ключові слова: офтальмологія, спадкові захворювання, генетика.

Резюме. Мета роботи — надати оптимізований план організації профілактики, раннього виявлення та лікування генетично обумовлених офтальмологічних проблем. Матеріали та методи. Об’єкт: процес профілактики, виявлення та лікування спадкової патології ока. Проведення вивчення: проблеми, що впливають на виявлення генетично обумовлених офтальмологічних захворювань, які ведуть до інвалідності пацієнта. Одиниця спостереження: пацієнт комісії з інвалідності Національного центру офтальмології імені акад. Заріфи Алієвої, м. Баку. Методи: опитування пацієнтів, аналітичне картування, статистична обробка одержаних результатів.

Результати. Генетично обумовлена патологія ока зустрічається досить часто, найбільш поширені дана проблема в тих країнах, де високий відсоток впливання родичних шлюбів. У ряді випадків спадкова патологія стає причиною інвалідності з дитинства.

Висновки. Таким чином, необхідне створення чіткої системи лікування генетично обумовлених офтальмологічних проблем. Тільки спільна робота соціальних служб та лікарів різних спеціальностей може призвести до успішних результатів у наданні допомоги цієї групи пацієнтів.

References

6. Shamshinova AM. Nasledstvennye i vrozhde