

National Program on Amblyopia Prevention In Islamic Republic Of Iran .

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Every 5 seconds one person in our world goes blind and a child goes blind every minute

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Amblyopia can be defined as subnormal visual acuity in one or both eyes despite the correction of any refractive error and is familiarly known as lazy eye .

Under normal conditions the development of visual acuity proceeds rapidly in infancy . However if interference in the formation of a clear retinal image occurs during this critical period , irreversible suppression of the visual pathway on that side develops ; examples of interference include cataracts , strabismus , ptosis and high refractive errors . If left untreated , suppression of the visual pathway results in amblyopia² .

The vision loss is reversible in younger children³ ; the golden time is before 5 years old⁴ . There is an upper limit of age at which amblyopia is still reversible (it may be approximately 10 years of age) . One of the major aims of early treatment of disorders such as strabismus is the prevention or reversal of amblyopia³ . Amblyopia therapy consists of patching the better eye to allow stimulation of the sup-

pressed central visual centers in the affected eye . The younger the child , the faster and more dramatic is the response to short periods of occlusion therapy² .

History :

“ National Program on Amblyopia Prevention ” , is a vision screening program of preschool children aims at identification of amblyopia and all of the eye disorders which themselves impair visual acuity and predispose eyes to amblyopia at golden ages i.e. just when the vision centers and pathways are going through their developmental phases and need sight stimulation in order to develop .

This program has been planned in the Disability Prevention department of Prevention Deputy of Welfare Organization . The pioneers of this program were Dr. Roshanak Vameghi and Mrs Ashraf Arabi . The program has been first piloted in 1996 in Bandar Abbas city only for children attending kindergartens , aged 3-6 years . Since then this program has been implemented annually and with a step by step progression through out the country . By the third year it includes all the provinces . Since 1998 not

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only children attending kindergartens but also the children who are cared at home have been included in the program by stabilization of vision examination stations . From 2000 it includes rural areas as well . Table (1) demonstrates number of preschool children covered by the program from 1996 to 2002 .

is undertaken. Children with normal vision are provided with parental assurance and vision aids for refractive errors or eye patching for amblyopia treatment is prescribed to those who need them . If there is any doubt in diagnosis or an organic lesion is suspected or there is no favorable response to the prescribed treatment the

Table 1 : Number of preschool children covered by the program from 1996 to 2002 .

Date	1996	1997	1998	1999	2000	2001	2002
Children (No.)	150,000	421,546	716,661	917,267	1,036,409	1,143,682	1,413,167

The process of program :

Each year on November , the beginning of the program is announced in television , radio , newspapers and other broadcasting services and some information about amblyopia is provided . Screening consists of three consequent stages ; at stage one children’s visual acuity is examined by means of Snellen chart and any obvious deformity or misalignment of eyes is noted by trained preschool and primary school teachers and health workers in “ visual exam stations” which are already established in kindergartens , primary schools , and primary health care centers on that special period of time . Along with examination ; parents are provided with information about amblyopia and the importance of early prevention and treatment . The children who are suspected to have vision problem at the first stage are referred to optometrists at the second stage of screening , where a more explicit and sophisticated examination of eyes including photo- refraction test and funduscopy

child is referred to the ophthalmologist (i.e. stage three of the program) , where the course of diagnosis is completed and intervention attempted accordingly .

Some other aspects of the program :

Active participation of families is a crucial need for success of the program . Awaiting and informing the parents is done by several different ways in the form of a campaign through out the course of the program :

- 1- Radio and television ; from a week before the beginning of the program and continuing through out the course;
- 2- Brochures are given to all parents who bring their child to vision exam stations ;
- 3- Face to face information is given to parents of children whose vision is suspected or is diagnosed to have any problems in vision exam stations and optometrists’ and ophthalmologists’ offices .

This campaign stresses on 5 important key points or figures : 1-Amblyopia can cause permanent vision loss in children ; 2- Lazy

eyes may seem normal when we watch them;

3- It can be treated easily only early in life and ideally before 5 years of age ; 4- If treatment is neglected it becomes increasingly more difficult and unfortunately the condition becomes untreatable ; 5- Every child must undergo a visual examination for at least once when she/he is 4 to 6 years of age.

Collaboration of different social organizations is another necessity for success of such a preventive program . In this case , the Ministry of Education , Health net work system, and organizations dealing with broadcasting services as well as the Welfare Organization take parts in implementing the program .

Accessibility and affordability . Establishing visual exam stations in distant urban and rural areas make visual examination accessible for a majority of the people in the country . At the first stage of the screening people has to pay a little money (The price is almost 1/30 of that of an ophthalmologist's visit fee) . For the children who need to pass second and third phase , subsequent visits are free of charge . In circumstances which the family has economic problems and high costs of vision aids and at times necessary surgery make these facilities unaffordable , glasses are given free of charge and the family will be helped in surgery costs , as much as possible , by the welfare organization .

Experience sharing and program promotion . All of the managers of the program all over the country come together each year to review the process and results of the last implementation of the program , and share their experiences in order to improve the program next year .

Achievements :

1,413,167 children 4-6 years of age have undergone vision screening on 2002 . This is about 58% of the total population in this age

group in the country . 9.2% of screened children were suspected to have a vision problem and were referred to optometrists . More than 2.3% of this group went to optometrist , of which 46% (about 40,000 children) were proved to have low vision acuity , and were prescribed treatment accordingly .

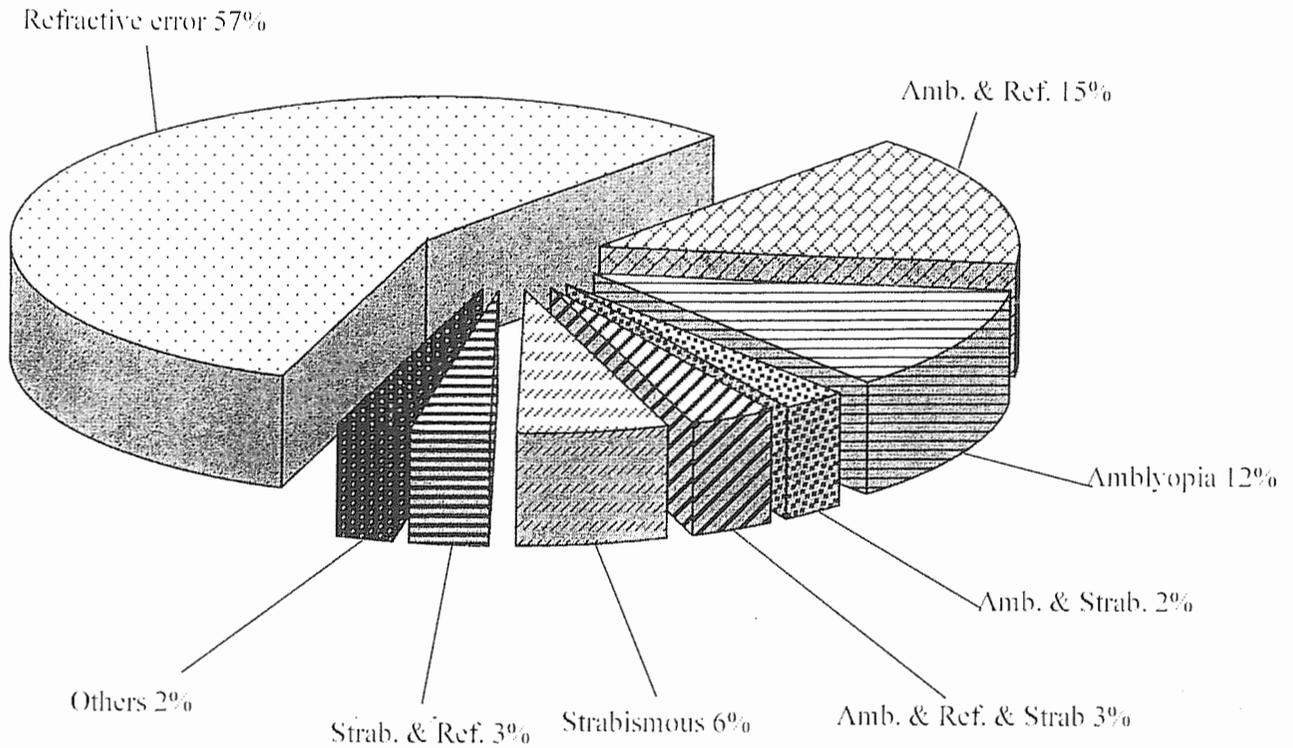
Findings :

According to the data gathered in the screening program implemented in 2002 , 4.2% of 4-6 years old iranian children have some degrees of low vision . Proportional ratio of different etiologies of low vision in this age is shown in figure 1. Data gathered from the national program on amblyopia revealed that prevalence of amblyopia is 1.54% in 4-6 years old children , and amblyopia is the second most prevalent cause of low vision and stands just after refractive errors in this age group . Also amblyopia was the cause of 32% of low visions either solely or along with one or more etiologic factors .

Acknowledgements :

Undoubtedly all of these achievements are due to many people who have roles in designing , implementation and managing the program all over the country . We sincerely thank all of those colleagues and especially teachers and health workers who examine children and encourage families to comply with the interventions until favorable results are achieved .

Figure 1: Low Vision Etiology in 4 - 6 Years Old Iranian Children



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