

## South American Programme: Brazil

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### Introduction

The number of blind people in Brazil is estimated at 0.4 to 0.5% of the population, or 4,000 to 5,000 per million. For a population of 160 million the total estimated number who are blind is approximately 640,000, using the criteria of vision < 20/400 (< 3/60). Due to regional socio-economic differences we find areas of estimated prevalence of blindness similar to developed countries of 0.25% and areas of poor economy and health services of 0.75%.

### Causes of Visual Impairment and Blindness in Brazil

The most important causes of visual impairment and blindness for adults in Brazil include non-corrected refractive errors, cataract, glaucoma and retinal diseases. For children the causes are congenital cataract, infection, non-corrected refractive errors and retinopathy of prematurity. Approximately 50% of the known cases of congenital cataract in Brazil are due to infections and rubella is the most important cause. Other important causes in some regions of the world, such as trachoma, onchocerciasis and vitamin A deficiency, are seen only in localised areas.

Cataract is the cause of 40 to 50% of the cases of blindness in Brazil. It is estimated that the number of patients needing cataract surgery is 500,000/year. Non-corrected refractive errors are also important causes, accounting for another 40% of cases. Other causes account for less than 10% and include glaucoma, retinal disorders, diabetic retinopathy, age-related macular disease and corneal infections.

There are a variety of reasons why many patients, blind because of cataract, do not have surgery, including fear of surgery, logistical barriers, financial, social and religious reasons.

In Brazil, the ageing of the population and the lack of opportunity to have surgery are contributing to maintain the present situation. It is expected that the population over 50 years of age will increase 4 times by the year 2020 and the number of people blind due to cataract must increase in a similar proportion.

### The National Programme

The public health approach involves a National Programme that could be used by the entire population as a free service. It is estimated that only 30% of Brazil's population can afford to purchase a private health plan, leaving a large number of people needing the public health system. The amount of money, about US\$ 10 billion, for the health programme is far from the necessary amount required to offer medical treatment to everyone needing this support. The total budget for the health system in Brazil is around US \$ 80/person, which is very low in view of the urgent problems the country faces.

### Ophthalmologists and Eye Care

In Brazil, the number of ophthalmologists seems to be appropriate, about 8,000 for a population of 160 million and more than 50% are doing cataract surgery. It is however necessary to optimise programmes to increase the number of operations. In most cases the use of facilities (equipment and operating rooms) and human resources prepared to do cataract surgery are not efficiently implemented. A rational and more effective application of resources is mandatory to reach more patients and it is necessary to push doctors and administrators to improve the performance of these services. If services increase the number of operations, even without new equipment and personnel, then the cost per operation will be reduced and more patients can get surgery.

Reducing barriers to access the health system is necessary, by increasing the number of appointments available for eye care in health clinics as primary care, together with the creation of an efficient reference system.

### Allied Eye Care Personnel

In Brazil there are few ophthalmic technician courses and few allied health personnel in eye care. The universities and medical schools should offer technical courses

to provide the number of technical assistants needed to improve the performance of each ophthalmic service. The University of Campinas (UNICAMP) pioneered two month courses for high school certified persons in 1990. This course is now offered 4 times a year, and has trained about 400 people. Also, two day courses to improve the skills of auxiliaries already working are offered and almost 2,000 workers have attended.

### Cataract Surgical Services

In 1986 a project was simultaneously realised in Campinas (Brazil) and Chimbote (Peru) supported by the National Institute of Health, UNICAMP, Helen Keller International, and Consejo Nacional de Salud de Peru.<sup>1</sup> The objectives of these projects were to study the frequency of cataract blind people and access to surgery in these regions. These projects were implemented by visiting each house within a chosen area of the cities (door to door). The results found 50% of blindness was caused by non-operated cataract. After the campaign we observed an increase from 58% to 82% in the number of those who had received surgery having been cataract

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*Developing local crafts after eye care*

*Photo: Clare Gilbert*

blind. Other projects similar to the first were carried out with the difference of using self test visual acuity screening and a retest at health centres.

In 1998 a national campaign for the prevention of blindness focused on cataract surgery. This campaign was coordinated by the Brazilian Council of Ophthalmology (CBO). As a result of the work of 2,000 ophthalmologists, about 30,000 patients had their vision restored either by surgery or by correction of refractive errors with free glasses.<sup>2</sup>

In 1999, due to the success of the 1998 campaign and an understanding of population needs, the Minister of Health agreed to support a new project to increase the number of cataract operations. The patients were attended either by projects during weekends or by routine examinations in health posts. In some areas, also, a waiting list of patients existed and these patients were included in the programme. As a result, and with the support of more than 3,500 ophthalmologists, there were 142,000 operations done in 1999. Adding to routine surgery sponsored by the Health System (SUS) there was a total of 250,000 cataract operations done by the public health system in 1999, a 215% increase over the last two years.

## Prevention of Childhood Visual Impairment

Understanding the importance of good vision for children the CBO and the Minister of Health began a campaign in 1999 to attend children during the first year of elementary school in cities of 50,000 people or more. The campaign was set to examine every child with < 20/30 (< 6/9) vision in one eye or symptoms the teacher had detected. The teachers were trained to detect eye problems and to measure visual acuity using the Snellen chart. Teacher training was carried out by an ophthalmologist based on a protocol and booklet developed and distributed by the CBO. After visual screening the children were sent either to eye clinics or public hospitals and were examined by the ophthalmologists in charge of the school. It was expected that 10% of the children would need an eye examination.

Four thousand ophthalmologists and school teachers selected children for eye examinations. Glasses were given free of charge, paid for by the government, after an agreement with the Brazilian Optic Association to charge only US\$ 8.00 for each pair of glasses. The glasses were dispensed with acrylic lenses and there were different models and sizes. The campaign was coordinated by the CBO with support of the Ministry of Education.

## The Way Forward

In order to be more rational in using the resources available and to extend the population coverage, a well designed and prepared programme is needed instead of campaigns. These campaigns have been useful in decreasing the number of blind from cataract, improving vision of school children and, further, showing the necessity for a broad eye care programme. In the

years ahead it is expected that a National Ophthalmic Programme to provide eye care will be implemented, mainly for cataract surgery, prescription and provision of glasses for children and adults, treatment of diabetic retinopathy and low vision services. Quality control of the services offered for the population needs to be included in this Programme to optimise efficiency in using these resources.<sup>3</sup>

Access for the population must be facilitated by weekend campaigns to detect the patients needing cataract surgery and spectacle prescription. Massive education campaigns and an increase in the number of eye examinations in health posts will also contribute in identifying patients. The participation of school teachers and community associations in screening the children will be of great importance. A reference system with trained ophthalmic auxiliary personnel also needs to be part of the programme.

As 70% of the population cannot afford to have a private health plan, the great majority need coverage by the Public Health System and these efforts are contributing to the decrease in the number of visually impaired people in the country. For the cataract campaign in this year, 2000, the costs per patient were about US\$ 220, including IOL, disposables and the surgeon's honorarium.

The budget for the year 2000 cataract campaign has been US \$ 50 million with US\$ 5 million for children's screening and spectacles. Funding has also been allocated for the new diabetic retinopathy projects which are most important considering the needs of a developing country such as Brazil. This will also contribute to a decrease in blindness.

## References

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## COMMUNITY EYE HEALTH WORKSHOPS

The courses at the following venues are designed for eye health workers who are working or plan to work in Community Eye Health. Applicants must be resident in the region to which they apply.

**South Africa: January 2001**

**Colombia: April 2001**

**Pakistan: April 2001**

**Tanzania: June 2001**

**India: July 2001**

**Nigeria: September 2001**

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