The Challenge of Escalating Avoidable Blindness:
A call for action

Avoidable blindness that results from both preventable and curable causes is a major public health problem and has far-reaching developmental, socio-economic and quality of life implications, particularly in developing countries. Of the estimated 45 million persons who are blind globally, 80% have avoidable causes; 9 out of 10 of these persons live in developing countries.

In 1994, the World Health Organization (WHO) estimated, on the basis of the 1990 global population, that there were nearly 38 million blind people and almost 110 million with low vision. These figures were revised on the basis of the 1996 world population to 45 million persons blind and 135 million with low vision. This phenomenal increase, despite the implementation of several national prevention of blindness programmes, rang alarm bells among those involved in initiating and supporting such programmes. Besides member countries, those involved were the World Health Organization, the International Agency for the Prevention of Blindness and a number of international non-governmental organizations. The situation seemed even more desperate when the numbers were estimated to almost double, based on the projected global population, and particularly the ageing population, by the year 2020, if more energetic efforts were not made to stem the tide.

Over the last two decades there has been a decline in blindness and low vision from infectious diseases such as trachoma and nutritional causes such as xerophthalmia resulting from vitamin A deficiency, compounded by childhood diseases such as measles, diarrhoea and respiratory infections. Off-setting these declines has been the increase in non-communicable diseases/disorders such as cataract, glaucoma, diabetic retinopathy, refractive errors and irremediable low vision from various causes. Most of these are related to ageing and the projected increase of this segment of the population, even within the short span of 20 years, would largely account for a near-doubling of global blindness and visual impairment.

Compounding the burden of blindness are causes that lead to blindness and visual impairment in childhood. Despite being relatively small in absolute numbers in relation to the childhood population, in terms of person-years of visual disability, childhood blindness ranks as the second most pressing problem to be tackled, next to cataract. Besides, such disability occurring in the formative years of childhood has far-reaching consequences for child development.

Cataract-related blindness, for which there is currently no known evidence-based measure that can be applied as a preventive intervention, is capable of being treated, with sight restoration, through surgery. Some of the greatest advances in surgery in the past two decades have been in the field of cataract surgery. Yet, an estimated half of all avoidable blindness results from unoperated cataract. This stems from the fact that there is a marked inequity both in the provision of cataract surgical services as well as its quality, between and within countries. Rural areas, which currently predominate in most developing countries, are home to most that remain blind from cataract, as access to affordable and quality surgery is generally lacking. Inequity in service provision is also responsible for the large number of persons of all ages who remain disabled from want of a corrective pair of spectacles for their refractive error.

Glaucoma in its chronic form, designated as 'the silent thief of sight' is estimated to account for over 5 million blind persons globally and this figure is set to rise, concomitant with ageing. The control of chronic glaucoma poses many challenges even in a clinical setting. It is more of a challenge in a public health and community setting, both in terms of making a reliable diagnosis and assessment before considerable damage has occurred and, even more importantly, in managing such patients. Despite considerable research both in case diagnosis and management modalities and a better understanding of the condition, much more needs to be learnt about effective evidence-based interventions that can be applied on a population basis.
Diabetes mellitus-related visual loss resulting chiefly from retinal vascular derangement is already the most important cause of preventable blindness in the working population of developed countries. There is reportedly a phenomenal increase in the incidence of diabetes mellitus, approaching epidemic proportions, in many rapidly developing economic regions of the world. This is particularly a concern in the more affluent urban populations and certain ethnic groups. Measures for the early detection of sight-threatening retinal lesions and their treatment are already in place but an estimated 7.5% of global blindness is attributed to this cause.

Intervention has to take place on a broad front, commencing with measures to prevent or control diabetes mellitus in the first place; proper diabetic care in the established diabetic, with strict control of blood sugar, blood pressure and blood lipid levels. Periodic eye examinations and treatment of sight-threatening lesions is well established. The need is for a greater awareness among the diabetic population about the potential for sight loss and the need to comply with treatment, including retinal laser treatment, if indicated.

Trachoma, a poverty-related disease, has been on the decline but due to the ravages of the disease, there are an estimated 5.9 million blind or severely visually impaired persons. Blindness occurs through scarring in the eyelids and in-turning of the eyelashes (trichiasis). An estimated 146 million persons, particularly children, have active disease in some of the most deprived communities and antibiotic treatment is indicated. There are also an estimated 10 million adults with trichiasis requiring corrective lid surgery. The control of blinding trachoma is one of the ‘unfinished agenda’ items in public health, a disease that was first recorded over four millennia ago! New attempts to eliminate blinding trachoma have been initiated with the SAFE strategy which includes medical interventions such as lid surgery and Antibiotic treatment as well as behavioural change, particularly Facial cleanliness and Environmental improvement.

Blindness in childhood, which has been referred to earlier, may result from a number of different causes which vary with economic status, from residual nutritional and infective causes, including rubella in the poorer regions, to retinopathy of prematurity in economically developed and rapidly developing regions. Congenital and genetically determined conditions still pose a problem in both developed and developing regions. Some of the recent breakthroughs in genetic research hold out some promise in dealing with these conditions.

Where residual vision remains from conditions that are not remediable by medical/surgical treatment or regular spectacle correction, recourse must be had to low vision care. A considerable number of persons amounting to several million are in need of such care and this number is rapidly increasing, given the rapid ageing of the population and the increasing incidence of age-related macular degeneration and other neglected ageing-related conditions such as glaucoma and diabetic retinopathy. Many children with congenital and genetically determined diseases, among others, also require low vision care. These services are almost non-existent in developing countries and are poorly developed even in a number of developed parts of the world.

Onchocerciasis or river blindness occurring in very specific areas of the world is fast being brought under control through concerted efforts using ivermectin (mectizan). Although included in Vision 2020, action to control the disease is already well under way.

VISION 2020—THE RIGHT TO SIGHT

Vision 2020—the Right to Sight, the global initiative for the elimination of avoidable blindness was born out of the concern felt by the WHO and its partner organizations engaged in the prevention of blindness around the world. It evolved into a coalition of interested partners to work on a common platform, on a common agreed agenda, to achieve a common goal—of eliminating avoidable blindness by the year 2020.

The initiative which was launched in February 1999 in Geneva by Dr Gro Harlem Brundtland, the Director General of WHO, has already been endorsed by a number of countries and world leaders.
The initiative is a collaborative effort to intensify and accelerate the ongoing activities in member countries, through focusing on identified priority conditions and required infrastructure. This capacity building, while helping in the elimination of the most important blinding conditions, in the first instance, is expected to lay the foundation for the development of a sustainable comprehensive eye care system, as an integral part of the health system, based on the principles of primary health care.

Vision 2020, besides including some generic issues such as advocacy for good eye health, resource mobilization, equity in service delivery in terms of geography and gender, greater efficiencies through better planning and management, also addresses the critical issue of quality of care and its outcomes. Its three major components are:

1. disease control which at a global level addresses five priority areas;
2. human resource development for eye health as an integral part of the human resources for health; and
3. infrastructure and appropriate development.

Plans are being developed in several regions and countries. What is important is to energetically and collectively transform these action plans into result-oriented action.

This is the challenge that faces the global community and particularly the medical fraternity and disciplines responsible for the precious gift of sight of people everywhere, thus ensuring their fundamental right to sight.

R. PARARAJASEGARAM
World Health Organization
Geneva
Switzerland

---

*The National Medical Journal of India is now covered in Current Contents: Clinical Medicine, Science Citation Index, SciSearch and Research Alert.*

—Editor