

Addressing childhood blindness: A collective responsibility

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Childhood blindness remains a significant public health concern¹ in Pakistan, placing a substantial economic burden^{2,3} on families and the wider community. The National Committee for the Prevention of Blindness recently revealed a sobering statistic: approximately one percent of the Pakistani population lives in darkness, with an estimated 1.2 per 1,000 children affected. Alarmingly, at least one-third of these cases are preventable. While the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) have launched global initiatives to eliminate avoidable blindness, childhood blindness being a priority but the real challenge lies in translating these commitments into concrete action at the national and community levels.

The Critical Window for Visual Development and Amblyopia: Children require clear vision from birth until around seven years of age for their brains to develop the visual and neural pathways necessary for healthy adult eyesight. Any obstruction during this critical period¹ can cause lifelong impairment, even if the underlying eye condition is later treated. Such impairment affects not only visual health but also physical, cognitive, and social development.

Amblyopia, also known as “lazy eye,” is a significant and often overlooked cause of childhood vision impairment. It develops when the brain and one eye fail to work together properly, usually due to untreated refractive errors, squint, or visual deprivation in early childhood.^{2,3} Amblyopia is highly treatable if detected early through vision screening, treating the underlying cause, and patching the good eye for few hours daily.

Emerging Lifestyle-Related Risks: The COVID-19 pandemic amplified certain risk factors. Prolonged indoor confinement, extended school hours, and excessive screen exposure have led to a noticeable rise in myopia⁴ (short-sightedness), necessitating the use of eye glasses.

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This trend underscores the importance of encouraging daily outdoor activities⁴, moderating screen time, and incorporating simple eye exercises into daily routines to protect children’s vision.

Nutritional Deficiency and Infectious Causes: vitamin-A deficiency remains a significant cause of preventable childhood blindness⁵, particularly in rural areas where malnutrition, poor hygiene, and inadequate healthcare access persist. Educating parents, encouraging breastfeeding and ensuring adequate nutrition⁶ through balanced diets and vitamin-A supplementation⁶ are crucial.

Infectious diseases including measles and rubella can lead to blindness. Mothers should be screened for rubella during the first prenatal visit and after 6-12 weeks of pregnancy in the first trimester to ensure timely intervention and to prevent potential blindness in the developing foetus. Screening for vision problems should be conducted during routine paediatric visits, especially following recovery from infections like measles and rubella. High-risk children should be screened more frequently. Immunization campaigns⁶, proper antenatal care and public health awareness are essential in combatting this childhood blindness.

Preventable Injuries from Firework and Child Abuse: Firework-related injuries remain the leading cause of traumatic vision loss among children, especially during festive seasons. At least one-quarter of affected children suffer permanent blindness. Urgent governmental intervention by restricting public access to hazardous fireworks, alongside parental and teacher vigilance, could significantly reduce these incidents. Other everyday items like sharpened pencils, rulers, scissors, knives, bleach, and limestone are also common causes of ocular trauma².

An equally alarming trend is the increase in eye injuries linked to child abuse. Physical blows to the head or face can cause irreversible damage. Effective intervention by child protection units is essential, with strict legal action against offenders and proactive safeguarding measures.

Harm from Misuse of Medications: Inappropriate steroid use for eye allergies is another preventable cause of blindness. Over-the-counter available steroid drops are often viewed as “quick fixes” but can lead to steroid-

induced glaucoma³ which is responsible for nearly half of paediatric glaucoma cases in Pakistan. Even some general practitioners overlook these risks. The Drug Regulatory Authority of Pakistan (DRAP) must ensure strict regulation of steroid dispensing, encouraging the use of safer, steroid-sparing alternatives when possible.

Specialized Conditions Requiring Urgent Action:

Retinopathy of prematurity (ROP) is a leading cause of avoidable childhood blindness worldwide⁷. It affects babies born before 37 weeks of gestation, with low birth weight and requiring oxygen. With Pakistan ranking second globally in preterm births⁸, and neonatal survival rates are improving now, the need for timely⁷ ROP screening is more urgent than ever. Sadly, only a minority of neonatal units offer such screening. A coordinated approach involving obstetricians, paediatricians, and paediatric ophthalmologists can prevent needless visual loss in these infants.

Congenital cataract, congenital glaucoma, and genetic eye disorders³ also contribute to childhood blindness. Early detection and timely intervention⁴ by paediatric ophthalmologist are vital to address them. The parents, caretakers and teachers are advised to seek immediate professional help if any abnormal eye reflex or visual behaviour in a child is observed.

Community-Based Causes: Trachoma, caused by *Chlamydia trachomatis*, is another significant cause of blindness in early childhood⁹ in areas with poor hygiene and sanitation⁹. It spreads through direct contact with eye discharge from infected individuals or via flies and contaminated objects like towels. Prevention hinges on improved access to clean water, promoting facial cleanliness, better hygiene education, and mass antibiotic distribution programmes. Community-based screening and treatment initiatives by health departments, NGOs, and local health workers can significantly reduce its prevalence.

Supporting Visually Impaired Children: Beyond prevention, we must also focus on inclusion and rehabilitation. Parents should emotionally support their visually impaired children and foster independence. Schools and communities should embrace inclusive education, ensuring that visually impaired children have access to resources and opportunities to thrive.

Role of Government and NGOs: National policy must prioritize childhood eye health⁶. Government collaboration with NGOs⁶ such as LRBT and Sight Savers can expand awareness campaigns, improve healthcare infrastructure, and enhance outreach services.

Investments in training healthcare professionals⁶, establishing parent support groups, and developing mechanisms for monitoring the quality of care for visually impaired children⁶ are urgently needed.

Nationwide educational campaigns, integration of eye health into school curricula, and strategic use of print, electronic, and social media can raise awareness, especially in rural and underserved areas to reduce the childhood blindness. Collaboration among pediatricians, family physicians, sociologists, teachers, and community support groups can improve the early detection, referral, and treatment of vision problems of our children.

Practical Screening Recommendations: Vision assessment and screening should begin in early school^{2,6} years and be repeated annually all over Pakistan by trained primary school teachers or health workers. Education and health departments must work together to ensure that children with visual issues are referred for treatment. For out-of-school children, community-based eye screenings through lady health workers, parental education, and mobile health units can bridge the gap in underserved populations effectively.

A Collective Responsibility: Children are our collective responsibility. The cost of negligence is measured not only in lost sight but also in lost futures. The social, emotional, and economic consequences of childhood blindness ripple far beyond the individual child, affecting families and communities. The tools, knowledge, and resources exist; what is required now is the collective will to protect the sight of our children.

DOI: <https://doi.org/10.47391/JPMA.25-87>

Disclaimer: None to declare

Conflict of Interest: None to declare

Funding Sources: None to declare

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