# CLEAR VISION, BRIGHT FUTURES

## Nahuleswary Vasudevan Free Eye Screening and Spectacles distribution Program for School Children in Northern Sri Lanka


**BY:**

**Dr.M.Malaravan**
**Consultant Ophthalmologist**
**Teaching Hospital Jaffna**


# Clear Vision, Bright Futures

## Nahuleswary Vasudevan Free Eye Screening and Spectacles distribution Program for School Children in Northern Sri Lanka

Eye Unit of Teaching Hospital Jaffna
in Collaboration with
Northern Provincial Council & Assist RR




ISBN(e-book): 978-624-92813-0-1
First Edition – 2025

Suggested Citation : M, Malaravan . Clear Vision, Bright Futures. 1st ed., vol. 1, Sri Lanka, Self Published, 31 Oct. 2025, p. 55.

# EXECUTIVE SUMMARY

Clear Vision, Bright Futures presents the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program for School Children in Northern Sri Lanka, led by Dr. M. Malaravan, Consultant Ophthalmologist, Teaching Hospital Jaffna. Grounded in public–private partnership and multi stakeholder engagement, the program aimed to detect refractive errors and other eye conditions, provide free spectacles, and improve children's educational performance, social development, and overall well-being.

A total of 17,725 students were screened, with 1,150 teachers trained for preliminary vision screening. The program identified 9,313 students with newly detected refractive errors, all receiving free spectacles.**Prevalence of refractive error** among students in Northern Province is **4.49%**.Myopia was the most common condition (2.39%), followed by astigmatism (2.00%) and hyperopia (0.09%). Age trends showed myopia increasing in classes 7–10 (12–15 years), while **refractive amblyopia affected 1.18%** (Out of 4.49%) of students, highest in 7-year-olds (0.13%). Urban schools showed higher myopic progression and greater spectacle use, and **overall effective Refractive Error Coverage (eERC) of 18.1%** remained below recommended levels.

Key recommendations include: integrating eye health into school health policy, establishing optical labs with affordable spectacles, scaling up to other provinces, strengthening partnerships, promoting early screening, encouraging healthy eye habits, and advocating for sustained investment.
Clear Vision, Bright Futures demonstrates how a simple, cost-effective, and collaborative intervention can transform children's lives and serve as a replicable model for school eye health programs worldwide.

**"The eyes are the window to the world; clear vision opens the door to learning, opportunity, and a brighter future."**

# Table of Contents

# List of Tables

# List of Figures

# Acronyms

URE:Uncorrected Refractive Error

VI:Visual Impairment

eREC: Effective Refractive Error Coverage

SDG: Sustainable Development goals

LMIC: Low Middle Income Countries

WHO: World Health Organisation

IAPB: International Agency for the Prevention of Blindness

# Message from the Hon.Governor,Northern Province


It is my great honor to extend warm greetings on the occasion of the launch of "Clear Vision, Bright Futures," a book that documents the remarkable Ms. Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program for school children in the Northern Province of Sri Lanka.

This initiative, led by the Teaching Hospital Jaffna's Eye Unit under the steadfast guidance of Dr.M.Malaravan, exemplifies the power of public-private partnership and multi-stakeholder collaboration in addressing critical health needs. By providing early detection and corrective measures for childhood visual impairment, the program directly contributes to improving the educational performance, social development, and overall well-being of our children.

In a region recovering from conflict and facing unique challenges in rural healthcare access, this program offers a beacon of hope and a replicable model for similar low-resource settings. The book not only chronicles the program’s achievements and lessons learned but also serves as an inspiration to policymakers, educators, and healthcare providers committed to child eye health.

I commend all those involved for their dedication to nurturing clearer vision for our children and, in doing so, securing a brighter future for our community and Northern Province.

May this book inspire continued efforts toward accessible and effective eye health programs that empower our children to realize their fullest potential.

Mr.N. Vethanayahan,
Governor of Northern Province,
Secretariat of the Governor of Northern Province,Sri Lanka

# Message from the Secretary,Ministry of Health and Mass Media

I am very happy to convey my sincere appreciation for the publication “Clear Vision, Bright Futures”, which captures the inspiring journey of the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program for School Children.

This initiative exemplifies the power of collaboration between the public health sector, education authorities, and community partners in advancing the vision and well-being of our younger generation. By addressing visual impairments at an early stage, this program not only enhances learning outcomes but also fosters confidence and inclusivity among school children, laying a strong foundation for their future success.

The Ministry of Health remains deeply committed to strengthening such preventive and promotive health initiatives that contribute to our national goal of achieving universal health coverage and equitable access to care. I extend my heartfelt commendation to the dedicated organizers, medical professionals, educators, and philanthropists whose collective efforts have made this program a model of compassionate service and sustainable impact.

I am confident that “Clear Vision, Bright Futures” will serve as an inspiration for similar initiatives across the nation and as a testament to the transformative potential of partnership-driven public health action.

Dr. Anil Jasinghe
Secretary,
Ministry of Health and Mass Media,Sri Lanka

# Message from the Director General of Health Services (DGHS)

I am delighted to extend my warmest wishes and appreciation for the publication “Clear Vision, Bright Futures”, which documents the inspiring journey of the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program for School Children in the Northern Province of Sri Lanka.

The idea for this remarkable initiative was first presented to my office, and upon recognizing its immense value to the health and education of our younger generation, I granted approval without hesitation. The concept resonated deeply with the Ministry’s vision of promoting preventive eye care and ensuring equitable access to essential health services for all, particularly for children in underserved communities.

The program’s successful implementation, bringing together the medical community, educators, and generous philanthropists demonstrates how collective commitment and compassion can lead to transformative health outcomes. By restoring clear vision, this initiative has not only enhanced children’s academic performance but also their self-confidence, quality of life, and future opportunities.

I commend the dedicated team of eye health professionals, school authorities, and sponsors whose collaborative efforts made this noble mission possible. I am confident that “Clear Vision, Bright Futures” will stand as a testament to the power of partnership and the importance of early intervention in protecting and promoting vision health among school children.

Dr. Asela Gunawardena
Director General of Health Services
Ministry of Health, Sri Lanka

# Message from the Secretary, Ministry of Education, Cultural Affairs, Sports & Youth Affairs, Northern Province

It gives me great pleasure to note that the vision screening and provision of spectacles programme have been successfully implemented in all 13 education zones of the Northern Province. All students were initially screened by the teachers who were trained for this purpose, and 17,725 students who were identified with deficiencies were screened by the team led by Dr. Malaravan. A total of 9,313 spectacles were provided-a remarkable initiative that greatly supports the health and educational development of our children.

At the outset, I extend my sincere gratitude to the Hon. Governor of the Northern Province for granting approval to conduct this programme. My heartfelt thanks also go to Dr. Malaravan and his dedicated team for their tireless efforts and invaluable support in making this initiative a success.I also wish to express my special appreciation to the Alaka Foundation for funding this noble programme in memory of the late Mrs. Nahuleswary Vasudevan, and to Assist RR for handling the logistics for spectacles distribution. Their generosity and dedicated support have made this initiative possible and continue to benefit the students of the Northern Province.

My thanks are also extended to the Provincial Director of Education, all Zonal Directors of Education, School Principals, and Teachers who carried out the initial screening, for their fullest cooperation in ensuring the smooth implementation of this programme.I extend my heartfelt thanks to everyone involved for their commitment and compassion in shaping a brighter future for our children through this noble service.

Mr.M. Patrick Diranjan

Secretary,

Ministry of Education, Cultural Affairs, Sports & Youth Affairs, Northern Province

# Message from the Provincial Director of Education,Northern Province

It is with deep appreciation and pride that I extend my warmest congratulations to all who contributed to the “Clear Vision, Bright Futures” initiative — a truly inspiring endeavour dedicated to nurturing the health, happiness, and potential of our children. This free eye-screening and spectacles distribution programme, led by the Eye Unit of the Teaching Hospital, Jaffna, and spearheaded by Dr. M. Malaravan, Consultant Ophthalmologist,exemplifies the strength of collective goodwill and the success of effective public–private partnership.

By identifying refractive errors and other visual conditions at an early stage, this initiative empowers children to reach their fullest potential in education and in life. Clear vision opens the door to brighter learning, greater confidence, and a stronger future for every child. A child who can see clearly can dream boldly and achieve greatly. I wholeheartedly commend this noble mission that illuminates young lives and strengthens the future of Northern Sri Lanka through compassion, commitment, and shared purpose. I also look forward to its continued expansion across our province.

Mr. Y.Jeyachandran
Provincial Director of Education
Northern Province,Sri Lanka

# Message from the Founders of Alaka Foundation

It gives us great joy and pride to write this message to the publication of, “Clear Vision, Bright Futures”, which documents the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program for School Children in Northern Sri Lanka.

This initiative was made possible through our humble contribution, provided in loving memory of Mr. Brahmal’s mother, Nahuleswary Vasudevan. Our belief has always been that every child deserves the gift of clear vision, a gift that opens doors to learning, growth, and opportunities. Through this program, thousands of schoolchildren have received timely eye screening and free spectacles, helping them overcome barriers to education caused by poor vision.

The success of this program has been made possible by the tireless efforts of the dedicated team led by Dr.M.Malaravan, schoolteachers, volunteers, and stakeholders who worked together with remarkable commitment. This book stands as a record of their work, their compassion, and the meaningful impact created across the Northern Province.

It is our hope that the experiences shared here will inspire similar efforts elsewhere, proving that simple, cost-effective interventions can transform lives and strengthen communities. We extend our heartfelt appreciation to all those who contributed to this noble initiative.

With best wishes,

Mr.Brahmal Vasudevan & Mrs. Shanthi Kandiah

Alaka Foundation, Malaysia.

# Message from the Chief Executive of the International Agency for the Prevention of Blindness (IAPB)

For children, good vision is the foundation of education and full participation in life. When a student sees clearly, they unlock their ability to learn, excel in school, and confidently explore the world around them. Ensuring timely and effective eye care is a moral imperative.

Providing spectacles and screening fosters equitable education and opens a future of possibilities for thousands of young people. Every child deserves the opportunity to see the world clearly, and through focused community efforts, we are building healthier, more prosperous societies—one child, one future, at a time.

Mr.Peter Holland
Chief Executive
International Agency for the Prevention of Blindness (IAPB).

# Message from the Director - Operations Aravind Eye Care System

Ensuring that every child has good eyesight is a very meaningful intent that goes beyond just improving eye sight. In many ways, it is a nation building activity, as it enables the young generation to attain their full potential, who in turn determine the future of the nation. This is particularly important given the rapid increase of myopia in children brought about by multiple lifestyle factors such less outdoor activities, increasing screen time and growing pressure to excel in academics.

In this context, it is very gratifying to know about the “Clear Vision, Bright Futures” initiative under Nahuleswary Vasudevan Free Eye Screening and Spectacles distribution Program for School Children in Northern Sri Lanka. It is a real blessing for Northern Sri Lanka that is slowly recovering from the ethnic conflict. Since the refractive error changes frequently in young children, this eye examination and spectacles distribution, should happen annually in all the schools. This will not only ensure that the children with refractive errors, continue to have good vision, but also change their health seeking behaviour and that of their families.

Wishing this programme all success and that this initiative continues for the years to come.

With warm regards,
Mr.Thulasiraj Ravilla
Director - Operations

# Message from the Chairman, Assist RR

At the end of the war, I formed the charity, Assist Resettlement and Renaissance (Assist RR) in the UK, with the sole objective of helping the victims of war in Sri Lanka to get back up on their feet. During our charity activities, I met
Dr. Malaravan who was very motivated in fixing the sight of many people in the North. We formed a long and successful partnership that enabled providing 29,000 free cataract surgeries at TH Jaffna fully funded by Assist RR using funds raised around the globe from 2022 to date.
Following the initiation of this eye screening program of school children in the Northern Province, I approached Alaka Foundation (Malaysia) for funding to provide spectacles to school children with refractive errors. Alaka Foundation agreed to fund the program in the name of Nahuleswary Vasudevan, through Assist RR and provided USD 50k. Assist RR managed this fund with cost efficiency and provided logistical support during specialist screenings,purchased and distributed spectacles within two weeks of screening the children. In total,around 9313 free spectacles were donated at a total cost of LKR 14.3 million.
Assist RR would like to express its sincere gratitude to Alaka Foundation for their generous financial contribution. We hope this will enable the children of the North to study better as well as engage in sport and other activities. Dr.M.Malaravan is an exceptional and dedicated individual,whose efforts have benefited the communities of the North in very impactful ways at low costs. I also would like to thank the optometrists of TH Jaffna and Mullaithivu DGH, who conducted the specialist screening with dedication.

Dr .Velautham Sarveswaran
Chairman,
Assist Resettlement and Renaissance (UK & Sri Lanka)

# Acknowledgement

Planning & Execution
Eye Unit,Teaching Hospital Jaffna

Fund
Alaka Foundation (Malaysia)

Logistics coordination
Assist RR (UK & Sri Lanka)

Human resources & Technical Support
Vision Care pvt.ltd
Ananthi Hospital,Vavuniya
Consultant Ophthalmologist,District General Hospital Vavuniya

Eye health awareness and Electronic education
Hemas Pharmaceuticals (Pvt) Ltd

Administrative Authorities
Ministry of Health,Sri Lanka
Secretariat of the Governor, Northern Province,Sri Lanka
Ministry of Health,Northern Province,Sri Lanka
Ministry of Education,Northern Province Sri Lanka

To all the teachers who voluntarily participated in the preliminary screening training and conducted the vision screenings.

# CHAPTER 01

## 1.The global and Regional Burden of Childhood Visual Impairment

### 1.1. Introduction

Vision plays a vital role in children's learning and development. Many eye diseases originate in childhood, and their morbidity often goes unnoticed, leading to significant impacts on academic performance and potentially severe ocular complications later in life. Uncorrected refractive error (URE) is one of the leading causes of visual impairment (VI). It occurs when light does not focus directly on the retina due to the eye's shape, resulting in blurred vision (Al Wadaani et al., 2012). Refractive errors include myopia, hypermetropia, and astigmatism, all of which can be managed through timely eye examinations and corrected with spectacles, contact lenses, or refractive surgery. Early treatment restores functional vision and prevents long-term complications (Rai et al., 2012).

### 1.2. Burden of Childhood Visual Impairment

Globally, an estimated 19 million children and adolescents aged 5–15 years' experience visual impairment, with 12.8 million cases (67%) attributed to uncorrected refractive errors (Cao et al., 2022). In low- and middle-income countries, including Sri Lanka, refractive errors represent a growing public health concern. Lifestyle modifications and increased screen time are contributing to rising myopia rates in children (Cao et al., 2022).Although relatively few studies have been conducted in Sri Lanka, available evidence suggests that refractive error is the leading cause of preventable VI among children (Thariq et al., 2022).

### 1.3. Impact of Uncorrected Refractive Errors on Children and Society

Children with uncorrected visual problems face disadvantages in the classroom, including difficulty seeing the blackboard, reading textbooks, or engaging in school activities. This results in poor academic performance, lower self-esteem, absenteeism, and higher dropout rates. Psychosocially, poor vision limits participation in play and social interaction, often causing isolation. Cultural stigma around spectacle use further reduces compliance.

On a broader scale, uncorrected refractive error leads to significant economic loss. Globally, productivity loss is estimated at USD 269 billion annually (Atowa & Hansraj, 2019). Families bear additional financial burdens related to healthcare, transport, and lost opportunities. Despite these challenges, refractive errors remain among the most easily preventable and treatable causes of VI through simple interventions such as school-based vision screening and timely spectacle provision.

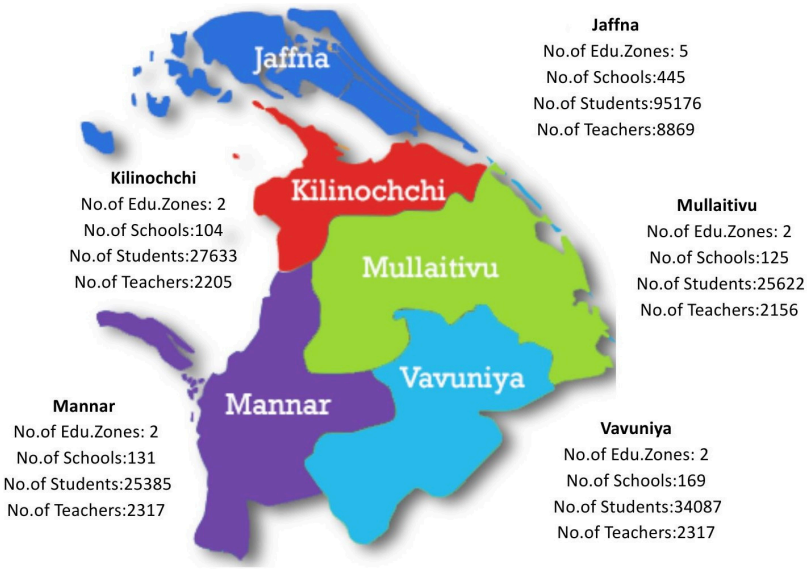
### 1.4. Global Efforts in Eye care for Children

The WHO and the International Agency for the Prevention of Blindness (IAPB) spearhead global initiatives to strengthen school eye health. WHO has introduced resources such as the Vision and Eye Screening Implementation Handbook and the Competency-Based Refractive Error Teams (CERT) model to standardize screenings and train teams in low-resource settings. IAPB focuses on advocacy and implementation, issuing School Eye Health Guidelines and leading campaigns such as Love Your Eyes Kids and the Focus on Child Eye Health Initiative. These initiatives emphasize reducing stigma, ensuring children receive corrective eyewear, and integrating eye health into education and public health systems.

### 1.6. Conclusion

Childhood visual impairment is a silent epidemic, particularly in low-resource settings. The majority of cases are preventable or correctable, yet millions of children lack access to interventions like spectacles. Evidence strongly supports school-based screening as an effective strategy to improve educational outcomes, reduce inequities, and promote healthier futures. Early intervention, regular eye checks, and equitable access to eye care are crucial for children's potential and societal development.

Having examined the global and regional burden of childhood visual impairment, it is essential to understand how these trends manifest within the local Sri Lankan context.




Northern Provincial Map with school demographic information (Annual School Census report,Sri Lanka-2023)

# CHAPTER 02

## 2.The Sri Lankan Context

### 2.1. Health and Education System Overview

Sri Lanka has a strong public health and education system compared to other South Asian countries. Healthcare is free through government hospitals and clinics, including services for children (Ministry of Health, 2022). Schools are free and compulsory until age 14, with high literacy rates (UNICEF Sri Lanka, 2021).Despite this, rural and post-conflict areas like Northern Sri Lanka face gaps in resources, teacher availability, and access to health services. Integrating eye care into schools is therefore essential to support children's learning and overall development.

### 2.2. Existing School Screening Program and limitations and Gaps

Sri Lanka has conducted school vision screening through the School Medical Inspection (SMI).In this program Children in grades 1, 4, 7, and 10 are examined by the SMI team as part of the school vision screening program. In the conventional approach, trained Public Health Inspectors (PHIs) assess visual acuity, and children identified with visual impairment are referred to the nearest hospital eye clinic for further evaluation, including refraction and prescription of spectacles. However, parents are responsible for purchasing spectacles from private stores, and the cost is often unaffordable, particularly for families below the poverty line. Consequently, many children end up without appropriate vision correction. Despite the recognized importance of school-based vision screening programs in addressing childhood visual impairment, several gaps and limitations persist in the Sri Lankan context.

### 2.3. Limitations and Gaps in Existing School Eye Health Program in Sri Lanka

- Limited rural coverage: School eye health initiatives are often concentrated in urban or semi-urban regions, with rural and estate-sector schools receiving limited attention. As a result, many children in underserved areas remain unscreened, perpetuating inequalities in access to eye care (WHO, 2020; IAPB, 2022).
- Inconsistent follow-up and spectacle provision: Even when screenings are conducted, systematic follow-up and consistent provision of corrective spectacles remain challenging. Poor adherence to treatment, loss of spectacles, and lack of replacements hinders the long-term effectiveness of interventions(Castanon Holguin, Aaron M et al,2016).

- Lack of feedback mechanisms: There is minimal monitoring of spectacle usage after distribution. Without mechanisms to assess whether children actually wear the spectacles, programs fail to capture the true impact on vision correction and learning outcomes.
- Barriers to accessing proper eye care services: Children and families face multiple barriers including affordability of spectacles, transportation difficulties, limited accessibility to specialized care in rural areas, and the additional economic burden on households. These challenges delay timely intervention.
- Lack of output and outcome data: Many school-based eye programs in Sri Lanka do not systematically capture or publish outcome data such as improved visual acuity, educational performance, or quality of life improvements. This data gap restricts evaluation of program effectiveness.
- Insufficient integration with educational programs: Collaboration between the health and education sectors is often weak, resulting in limited awareness among teachers and parents. Teachers are not consistently trained to recognize early signs of vision problems, reducing the sustainability of screening efforts.
- Data scarcity on prevalence and compliance: Reliable, large-scale data on the prevalence of refractive error, compliance with spectacle usage, and the long-term impact of interventions in Sri Lanka remains scarce. This poses a challenge for evidence-based planning and policymaking.

### 2.4. Challenges in Northern Sri Lanka

- The Northern Province faces unique challenges due to decades of conflict:
- Post-conflict recovery: Gradual reconstruction of schools and hospitals amidst persistent staff shortages in the Northern Province.
- Resource constraints: Few eye care professionals and limited availability of low-cost spectacles.
- Rural access issues: Families face long travel distances and transportation costs; cultural factors may limit care-seeking.

# CHAPTER 03

## 3. Rationale for the free spectacle distribution program

### 3.1. Why School-Based Screening?

Schools are the ideal setting for childhood vision screening because they provide access to large numbers of children in a structured environment. Integrating eye health services into schools ensures early detection of visual impairment, particularly uncorrected refractive errors. School-based programs are cost-effective, allowing for mass screening with minimal disruption to children's education By reaching children in their learning environment, such programs can ensure timely referral, treatment, and follow-up, bridging gaps that exist in community-based eye care services.

### 3.2. Impact of Uncorrected Refractive Error on Academic Performance and Psychosocial Health

Poor vision can significantly affect a child's academic performance, making it difficult to read the blackboard, participate in classroom activities, and complete homework. Studies have shown that children with uncorrected vision problems are more likely to have lower grades, increased absenteeism, and reduced engagement in learning(Pirindhavellie, Govender-Poonsamy et al.,2023).

Beyond academics, vision impairment also affects psychosocial wellbeing. Children may experience social isolation, reduced confidence, and stigmatization, particularly in contexts where spectacle use is uncommon or culturally discouraged. Early identification and correction of visual impairment can therefore have far-reaching effects on both educational achievement and emotional development.

According to IAPB, children who do not receive glasses when needed learn only half as much as their peers. Correcting refractive errors translates directly into improved lifetime earnings: a child who receives spectacles at age five and continues to wear them through school may earn on average 78% more over their lifetime compared to one who never receives correction. Globally, uncorrected childhood refractive errors result in 6.3 million lost years of schooling annually, equating to an estimated USD 173 billion in lost future productivity.

### 3.3. Aligning with Sustainable Development Goals (SDGs)

School-based eye health interventions directly contribute to several Sustainable Development Goals (SDGs):

- SDG 3 (Good Health and Wellbeing): Early detection and treatment of visual impairment improve health outcomes and prevents avoidable blindness.

- SDG 4 (Quality Education): Corrected vision allows children to fully participate in learning and achieve their academic potential.
- SDG 10 (Reduced Inequalities): Targeting underserved and rural populations ensures equitable access to essential health services.
- SDG 17 (Partnerships for the goals): Collaboration between schools, healthcare providers, government authorities, and partner organizations strengthens resources, expertise, and sustainability of the program.

### 3.4. Significance to the Northern Province of Sri Lanka

The Northern Province of Sri Lanka, recovering from decades of conflict, faces unique challenges in education and healthcare. Although rebuilding schools and healthcare infrastructure has been prioritized, specialized eye care services remain underdeveloped. Children, especially in rural and resource-constrained settings, often lack access to ophthalmologists and optometrists. Cultural stigma regarding spectacle use, poverty, and limited access to follow-up care further restrict children's ability to benefit from corrective services. In this context, school-based eye screening programs represent not only a health intervention but also an equity and development initiative. They help bridge gaps in access, improve academic participation, and support long-term wellbeing of children in the region.

### 3.5. Justification for free Spectacles Distribution as Part of the Intervention

Screening alone is insufficient if identified visual impairments are not treated. Providing free spectacles as part of the program ensures that children with refractive errors can immediately benefit from improved vision. Spectacle distribution addresses financial barriers, improves adherence, and maximizes the educational and psychosocial benefits of screening.

Including spectacles as an integral component aligns with the principle of comprehensive care, moving beyond detection to intervention. Studies from similar low-resource settings have demonstrated that children who receive spectacles show improved classroom performance, confidence, and social participation, reinforcing the necessity of combining screening with corrective treatment(Latif, Muhammad Zahid et al.,2022).

Having established the purpose and necessity of the program, the next step is to explore its design and implementation strategies.

# 4. Program design, Implementation, and Program delivery approaches

**Overview**

The Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program provided free spectacles to children in Grades 1 to 13 in Northern Sri Lanka. Funded by the Alaka Foundation and implemented by the Eye Unit of Teaching Hospital Jaffna with Assist RR, the program offered vision screening and corrective spectacles to visually impaired children. Led by Dr. M. Malaravan, it involved a strong public-private partnership with multiple stakeholders.

## 01 PROGRAM CONCEPTION & PLANNING

Idea Conceived by Dr.M.Malaravan.
Initial discussions held to explore funding opportunities through a public-private partnership.

## 02 FUNDING &APPROVAL

Funding Secured with Alaka Foundation,Malaysia through Assist RR(UK & Sri Lanka).Proposal submitted to the Director General of Health Services (DGHS) and approved without delays.

## 03 STAKEHOLDER ENGAGEMENT

Multi-stakeholder meetings conducted to ensure broad participation and collaboration.
Key stakeholders included:
Governor's Secretariat,
Provincial Department of Health Services and Provincial Department of Education, Northern Province
Vision care Pvt.Ltd,Ananthi Eye Hospital,Hemas Pharmaceuticals

## 04 PROGRAM IMPLEMENTATION

- Teachers trained to screen students' vision.
- Students with potential issues identified by teachers.
- Identified students received comprehensive eye exams-Cluster based approach
- Exams conducted by a team of eye care professionals.

## 05 RESOURCE SUPPORT

- Partnered with hospitals and organizations to support resources.
- Provided spectacles to students.
- Scheduled follow-ups during school holidays.
- Arranged special care for children with special needs.

## 06 PROGRAM OUTCOMES

Executed via public-private partnership; aligned with SDGs 3, 4, 10, and 17

## 07 INTERVENTION DELIVERY

Free spectacles distribution,follow up scheduled during school holidays

# CHAPTER 04

## 4.1. From Vision to Action: Conception of the Program

The program was conceived in response to the recognized importance of eye health among school children and the limitations of existing school eye health initiatives in Sri Lanka. The idea was first proposed by Dr. M. Malaravan, who highlighted the need for a structured program that both screened students and provided spectacles free of cost. Initial discussions were held with Assist RR (UK & Sri Lanka) on 3 October 2023, followed by consultations with the Late Tan Sri Anantha Krishnan of the Anantha Foundation, Malaysia, who suggested scaling the program to cover all school children in the Northern Province and pledged long-term support.Subsequently, the program's funding was sustained by the Alaka Foundation, Malaysia.

To formalize the initiative, a proposal was submitted to the Director General of Health Services on 9 January 2024, highlighting its relevance to Sustainable Development Goals (SDGs) 3 (Good Health and Well-being), 4 (Quality Education), and 17 (Partnerships for the Goals). Approval was promptly granted on 12 January 2024. A stakeholder meeting chaired by the then-Governor of the Northern Province, Mrs. P. S. M. Charles, was convened on 11 March 2024, during which the program was officially launched. As the first step of the program, teachers training program began on 18th March 2024 in Jaffna district.On 17 April 2024, Vision Care Pvt. Ltd. strengthened the program by donating vision charts to all schools in the province.

The program was initially named the "Free Eye Screening and Spectacles Distribution Program." During the official inauguration of the free spectacles distribution program on 10 September 2024 at J/Victoria College, Chulipuram, in the Valikamam education zone, Mr. Brahmal Vasudevan and Mrs. Shanthini Kandiah of the Alaka Foundation, Malaysia, attended the event.

They were impressed by the initiative and agreed to provide funding to extend free spectacles distribution across the entire Northern Province, requesting that the program be named in memory of Mr. Brahmal's late mother. Consequently, the program was renamed the "Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program".

The program was temporarily paused on 26 September 2024 due to various reasons. Following a provincial administrative change, a review meeting chaired by the new Governor, Mr. N. Vethanayagam, was held on 11 November 2024 with key stakeholders. After this meeting, the program was expanded to other districts of the Northern Province and was successfully completed on 23 October 2025. Spanning 2024–2025, it became the first large-scale school eye health program in Sri Lanka conducted under the theme of effective spectacle coverage.

### 4.2. Program Model: How It Differed from Existing Approaches

Unlike existing fragmented initiatives, this program adopted a **cluster-based school screening model** designed to ensure both sustainability and efficiency. Nearby schools were grouped into clusters, enabling systematic coverage and optimal use of resources, including staff, equipment, and logistics. The cluster model also created a supportive peer environment that encouraged student participation.

Teachers were trained to conduct preliminary screenings during free classroom periods, ensuring minimal disruption to routine education. This embedded sustainability into the school system, with screenings conducted by familiar teachers rather than external staff.

Comprehensive eye care services were delivered directly at schools. Expert teams, comprising ophthalmologists, orthoptists, optometrists, and low-vision specialists conducted detailed examinations, provided treatment, and made referrals as needed. Students diagnosed with refractive errors were prescribed spectacles, which were distributed on-site through school principals. This eliminated the need for children to travel to hospitals and improved compliance.

### 4.3. Stakeholder Engagement

The program brought together a wide network of partners:

- Eye Unit, Teaching Hospital Jaffna – Implementation lead; medical team
- Alaka Foundation, Malaysia – Program sponsor.
- Assist RR (UK & Sri Lanka) – Logistics coordination and spectacles distribution.
- Ananthi Eye Hospital, Vavuniya – Equipment support and clinical resources.
- Vision Care Pvt. Ltd. – Technical support and vision chart provision.
- Hemas Pharmaceuticals (Pvt) Ltd – Educational and awareness activities.
- Ministry of Education, Northern Province- Teacher training and administrative facilitation.
- Ministry of Health, Northern Province – Administrative clearance.
- Eye Unit, District General Hospital Vavuniya – Ophthalmologist support for Vavuniya North Zone.

### 4.4. Funding and Resources Mobilized

The program was fully funded by the Alaka Foundation, Malaysia, with implementation support from Assist RR (UK & Sri Lanka). Resource gaps were addressed through public–private partnerships. The Ministry of Education facilitated teacher involvement, while Vision Care Pvt. Ltd. provided technical support and vision charts. The Ananthi Eye Hospital contributed equipment support, while the Eye Unit, Teaching Hospital Jaffna provided training and expertise.Teachers and other health professionals volunteered their time, further reinforcing the collaborative and sustainable nature of the program.

### 4.5. Teacher Training and Preliminary Screening

Teacher training was a cornerstone of the program. Training sessions were arranged by respective Zonal Director of Education offices as four-hour workshops (two hours of theory and two hours of practical demonstrations), focusing on the identification of visual impairment in children.

Teacher selection was based on subject expertise:

- Primary schools – Environmental teachers.
- Junior secondary (up to O/L) – Science teachers.
- A/L schools – Biology or Science teachers.

Dr. M. Malaravan conducted training across all five districts, with additional sessions in the Jaffna district by a senior optometrist from the Teaching Hospital Jaffna. Trainings were organised by the Ministry of Education, with no incentives provided to teachers or trainers, reflecting the voluntary and collaborative approach.

### 4.6. Comprehensive Screening and Follow-Up

Children flagged during teacher-led preliminary screenings were examined by the visiting expert team from Teaching Hospital Jaffna. Comprehensive assessments identified refractive errors, low vision, squint, and other paediatric eye conditions. Spectacles were prescribed where necessary, and prescriptions were compiled and submitted to Assist RR, which procured and distributed spectacles within two weeks, in coordination with Zonal Directors of Education and school principals.

Students requiring further follow-up were scheduled for appointments at respective hospitals during school holidays. Parents of children with low vision were counselled and referred for additional educational and special support services where needed.

# CHAPTER 04

## Overview of Program Delivery Approach


**Northern Province**
5 Districts
13 Educational Zones
974 Schools
207568 Students
18396 Teachers

Teachers selected,Trained to use Vision Chart,Free Vision Charts were distributed to all Schools

Preliminary Eye Screening by Teachers for students from Grade 1 to 13,Student identification with with vision problems,information Collated

Comprehensive Eye Screening By Team of ophthalmologists, optometrists, and orthoptists,Identification of students with refractive errors and ocular conditions

Spectacles Distribution in two weeks,Referrals to hospital to those needed,arrangements for special need students,Follow up scheduled

Monitoring Spectacles usage,Evaluating performance of students

### 4.6. Program delivery approach

To ensure systematic and effective delivery of the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program, a cluster-based approach was adopted. Schools within each district were organized into clusters to streamline service delivery, optimize resources, and facilitate coordinated monitoring. This structured approach allowed nearby schools to be covered efficiently, minimizing logistical challenges and ensuring consistent quality of services.

Northern Sri Lanka consists of five districts, such as Jaffna, Mullaitivu, Vavuniya, Kilinochchi, and Mannar, comprising 13 educational zones with 974 schools, 207,568 students, and 18,396 teachers. All students from Grade 1 to 13 were included in the program, while selected teachers received structured training to conduct preliminary vision screenings.

Teacher-led screenings served as the first point of assessment. Using Snellen charts, teachers identified students who may have visual impairments. Students flagged during these screenings were referred to the comprehensive eye examination conducted by a visiting expert team from the Eye Unit of Teaching Hospital Jaffna. The team, consisting of ophthalmologists, optometrists, and orthoptists, performed detailed assessments, prescribed spectacles, and referred children with other ocular conditions to their respective hospitals for further management.

Equity and follow-up were central to program oversight. All students diagnosed with refractive errors received free spectacles, with procurement and distribution coordinated by Assist RR. Trained teachers monitored students' spectacle usage and reported follow-up outcomes to health officials, ensuring adherence and identifying any challenges. Additionally, students requiring specialized care were referred and tracked, guaranteeing continuity of care without disruption to schooling.

This approach not only ensured efficient resource use and equitable service delivery but also embedded mechanisms for monitoring, supervision, and follow-up, contributing to the overall effectiveness and sustainability of the program.

With the program fully organized and monitored, students across the Northern Province were able to obtain eye care services effectively. The cluster-based screenings, teacher-led assessments, and expert follow-ups set the stage for clear results.

The next chapter presents the program's outcomes and impact, including achievements, challenges, and lessons learned.

# 5.Outcomes of the Program

### 5.1. Teachers training and Student Screening

A total of 1,150 (6.25% of overall teachers population in Northern Province) teachers were trained to conduct preliminary vision screening. Among students, resulting in the participation of 17725 students with vision problems. Table 01 presents a summary of the number of teachers trained in each district of the Northern Province, along with the number of students screened by the comprehensive eye screening program medical team.

***Table 01: District-wise distribution of teachers trained, and students screened during the program.***

| District | Total No.of Teachers | No.of Teachers trained | Total No.of Students | No.of students screened in comprehensive eye screening program |
|---|---|---|---|---|
| Jaffna | 8869 | 566 | 95176 | 8916 |
| Kilinochchi | 2205 | 110 | 27638 | 1982 |
| Mannar | 2317 | 147 | 25385 | 2454 |
| Mullaitivu | 2156 | 147 | 25282 | 2525 |
| Vavuniya | 2849 | 180 | 34087 | 1848 |
| Total | 18396 | 1150 | 207568 | 17725 |

### 5.2. Prevalence of Refractive Errors and Other Ocular Conditions

Among the students screened, 4.49% (9,313 out of 207,568) were found to have refractive errors. The prevalence was highest in Jaffna (2.29%), while other ocular conditions including keratoconus, eye allergies, squints, low vision, and only-eye conditions showed low prevalence (<0.1–0.2%). Table 02 presents the district-wise distribution of these conditions, and Table 3 details the types and prevalence of refractive errors.

Figure 01 shows the distribution of spectacles among students, with Jaffna receiving 4,743, followed by Mannar (1,486), Mullaithivu (1,064), Kilinochchi (921), and Vavuniya (1,099).Based on the findings, Myopia (2.39%) was the most common refractive error, followed by astigmatism (2.00%), while hyperopia (0.09%) was rare (Figure 2). District-wise, Jaffna reported the highest prevalence across all refractive error types, whereas Vavuniya and Mullaithivu had the lowest (Figure 03). These findings indicate that myopia and astigmatism are the primary visual concerns across the Northern Province.

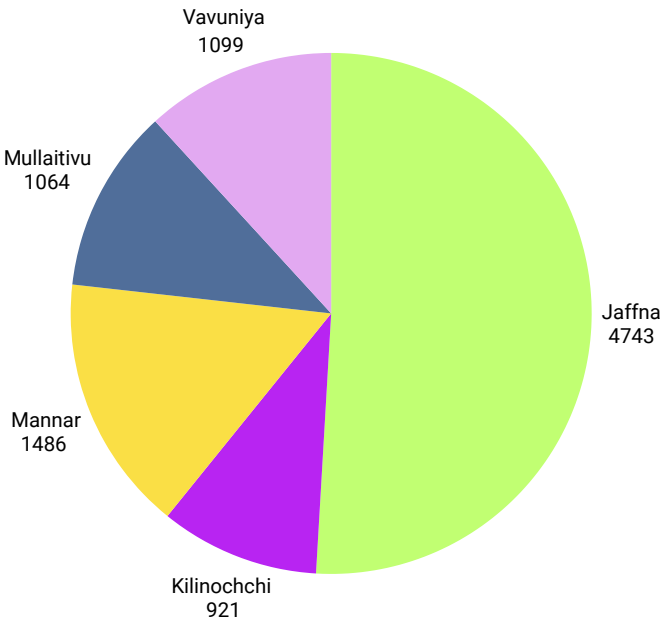



***Figure 01: Distribution of spectacles by district among students newly identified with refractive errors***

***Table 02: District based Distribution and Prevalence of Eye Conditions Among Students Participated in the Eye Health Program (n = 207,568)***

| Category | Jaffna | Kilinochchi | Mannar | Mullaitivu | Vavuniya | Total |
|---|---|---|---|---|---|---|
| Refractive error | 4743 (2.29%) | 921 (0.44%) | 1486 (0.72%) | 1064 (0.51%) | 1099 (0.53%) | **9313 (4.49%)** |
| Keratoconus | 54 (0.03%) | 13 (0.01%) | 15 (0.01%) | 10 (0.005%) | 21 (0.01%) | 113 (0.05%) |
| Eye Allergy | 85 (0.04%) | 20 (0.01%) | 21 (0.01%) | 19 (0.01%) | 30 (0.01%) | 175 (0.08%) |
| Squints | 70 ( 0.03%) | 17 (0.01%) | 37 (0.02%) | 28 (0.01%) | 23 (0.01%) | 175 (0.08%) |
| Low vision | 44 (0.02%) | 22 ( 0.01%) | 14 (0.01%) | 12 (0.01%) | 14 (0.01%) | 106 (0.05%) |
| Only Eye | 31 (0.01%) | 18 (0.01%) | 18 (0.01%) | 19 (0.01%) | 13 (0.01%) | 99 (0.05%) |
| Others | 198 (0.10%) | 0 ( 0.00%) | 87 (0.04%) | 29 (0.01%) | 102 (0.05%) | 416 (0.20%) |

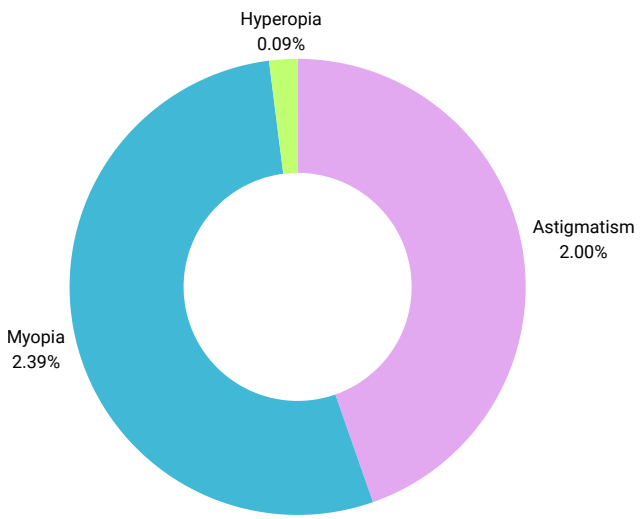



***Figure 02:Prevalence of Refractive error types among Northern Sri Lankan student population.***

***Table 03: Types and prevalence of Refractive error among students in Northern Province***

| Pattern | No.of Students | Prevalence in % |
|---|---|---|
| Astigmatism | 4156 | 2.00% |
| Myopia | 4969 | 2.39% |
| Hyperopia | 188 | 0.09% |
| Total | 9313 | 4.49% |

### 5.3.Class Based Distribution

The number of students with myopia increased steadily from lower to higher classes, peaking in classes 7–10, suggesting that near-vision demands and age-related progression contribute to its development. Astigmatism was more evenly distributed across classes, while hyperopia remained low and scattered. The high number of refractive errors in older students underscores that many vision problems may go undetected in early years (Figure 04).Notably, urban schools demonstrated higher myopic progression and greater spectacle use compared to rural schools, suggesting differences in environmental and lifestyle factors that influence visual health.

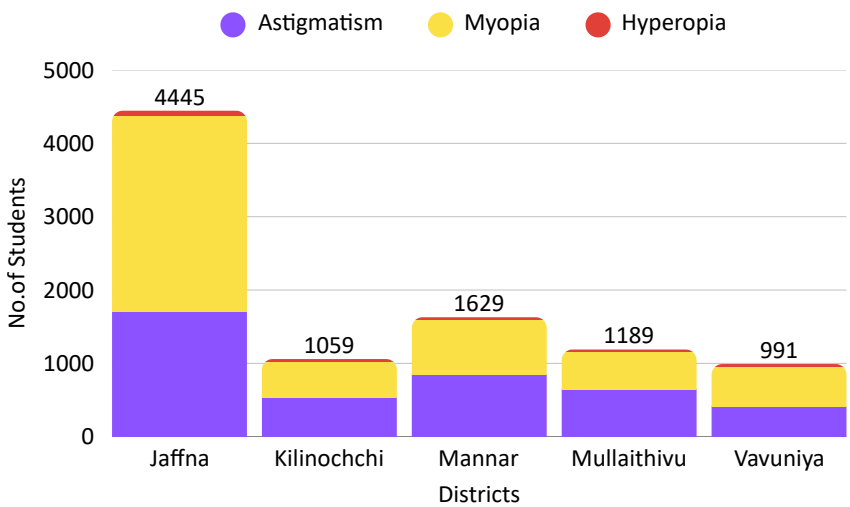
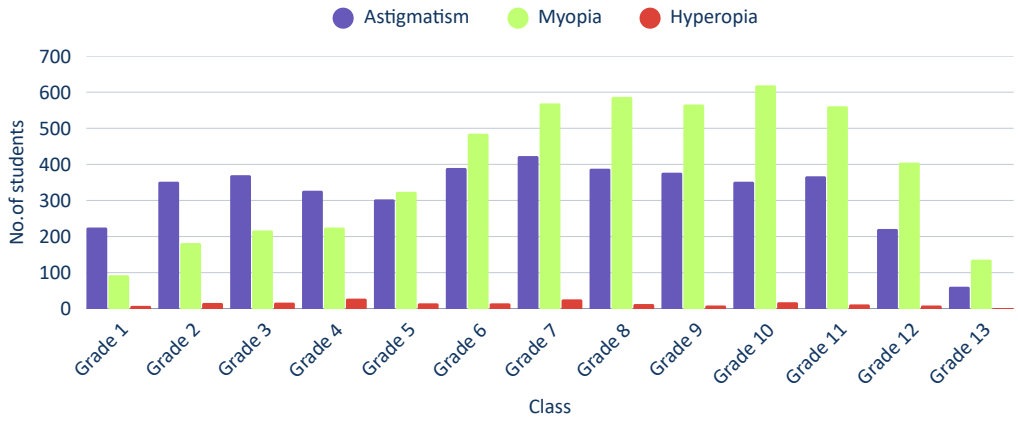



***Figure 03: Types of Refractive errors distribution across districts***

***Figure 04:Number of students with newly identified refractive errors for each type across classes.***




### 5.4. Comparison with Regional and Global Findings

Table 04 summarises the comparison with other regional findings.Globally, the estimated pooled prevalence (EPP) of refractive errors in children is 11.7% for myopia, 4.6% for hyperopia, and 14.9% for astigmatism, with significant regional variation. Myopia prevalence ranges from 4.9% in South-East Asia to 18.2% in the Western Pacific, hyperopia from 2.2% in South-East Asia to 14.3% in the Americas, and astigmatism from 9.8% in South-East Asia to 27.2% in the Americas (Liu, Linglin et al., 2022). In comparison, studies in Singapore (myopia 11%, astigmatism 8.6%), India (myopia 5.3%, astigmatism 5.4%), and Pakistan (myopia 1.9%, astigmatism 0.76%) reflect similar regional differences. In Northern Sri Lanka, the prevalence among schoolchildren is lower, with myopia 2.39%, astigmatism 2.00%, and hyperopia 0.09%, aligning with the lower range seen in South-East Asia.

### 5.5. Refractive Amblyopia and its prevalence

In the Northern Province, 26.9% of students newly identified with refractive errors exhibited amblyopia in at least one eye, defined as a visual acuity of less than 6/9. The overall prevalence of refractive amblyopia was 1.18%, with higher rates observed among children aged 7 years with the prevalence of 0.13% , highlighting critical periods for visual development.As shown in figure 05,the prevalence then ranged from 0.11% to 0.12% among children aged 8 to 12 years and gradually declined to 0.05% in Grade 13. The higher prevalence at age seven likely reflects the critical stage of visual development, when uncorrected refractive errors or unequal visual stimulation between the eyes can more easily lead to amblyopia.

***Table 04:Comparison of the prevalence of Refractive error types with other regional countries.***

| Study / Region | Myopia | Astigmatism | Hyperopia |
|---|---|---|---|
| Singapore (Dirani, Mohamed et al.,2010-STARS) | 11 | 8.6 | 1.4 |
| Pakistan(Gull & Raza,2014 ) | 1.89 | 0.76 | 0.63 |
| India (Sheeladevi et al.2018 systematic review) | 5.3 | 5.4 | 4 |
| Sichuan, China(Liu et al.2022) | 59.1 | 38.4 | 5 |
| Northern Sri Lanka (2025) | 2.39 | 2 | 0.09 |

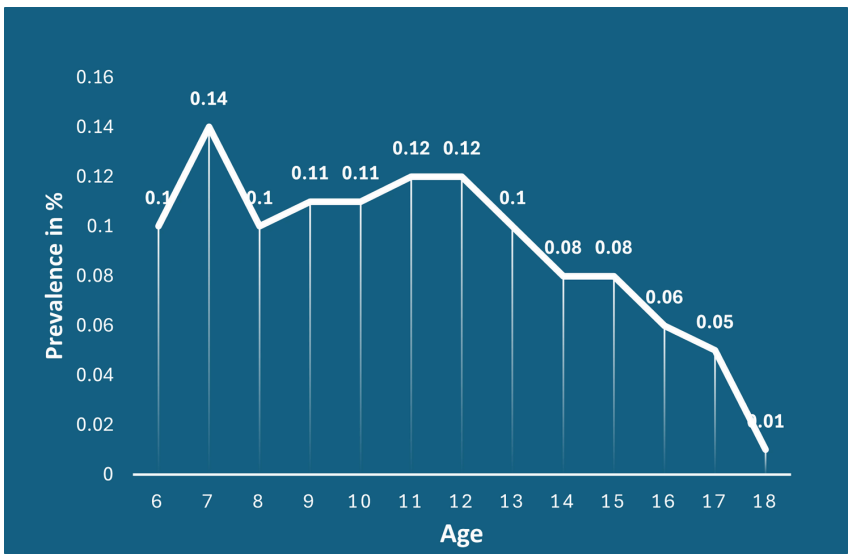



***Figure 05: Prevalence of Refractive Amblyopia by Age (6–18 Years)***

### 5.6. Effective Refractive Error Coverage and access to Spectacles

Effective refractive error coverage (eREC) measures the proportion of individuals with refractive errors whose vision is adequately corrected, reflecting both the prevalence of visual impairment and the accessibility of eye care services. The WHO recommends an ERC of at least 50% among school-aged children, yet coverage remains low in many low- and middle-income countries.

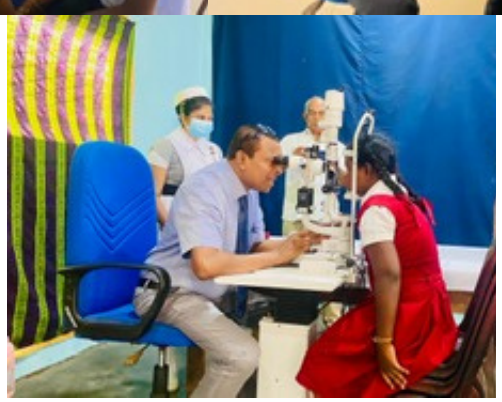
In Northern Sri Lanka, the effective Refractive Error Coverage (eREC) is currently 18.1%, far below the recommended level, highlighting significant gaps in timely access to eye care and corrective services. In comparison, high-income countries report Refractive Error Coverage (REC) rates exceeding 70–80%, reflecting stronger screening programs, better accessibility, and higher public awareness.

Within the Northern Province, only 2,056 students with refractive errors were already wearing spectacles out of a total student population of 207,568, while 9,313 students were newly identified with refractive errors through the school screening program. The low eREC underscores the persistent barriers faced by children in rural settings, where poverty, limited service availability, and lack of affordable spectacles hinder access to essential vision care.

Furthermore, Sri Lanka lacks a standardized or subsidized pricing system for spectacles, with costs varying widely between providers. The Nahuleswary Vasudevan Free Eye Screening and Spectacle Distribution Program demonstrated a cost-effective model, providing spectacles of comparable quality at an average cost of USD 5.12 per pair. Notably, the high prevalence of refractive amblyopia (26.3%) among affected students emphasizes the need for early detection and timely correction to prevent irreversible visual impairment. These findings collectively highlight the importance of strengthening school-based eye health programs and implementing targeted, affordable interventions to improve refractive error coverage and visual outcomes in the region.

**Summary of the Outcomes**

- Newly detected refractive errors: 4.49% of students
- Breakdown by type:
  - Myopia: 2.39% (most common)
  - Astigmatism: 2.00%
  - Hyperopia: 0.09%
- Age/Class trends:
  - Myopia increases with age, peaking in classes 7–10 (12–15 years)
- Refractive amblyopia: 1.18% overall
  - Highest in 7-year-olds with the prevalence of 0.13%
- Urban vs rural:
  - Urban schools show higher myopic progression and greater spectacle use
- Refractive Error Coverage (ERC): 18.1%, well below recommended levels



# 6. Challenges and facilitators faced during implementation

While the program demonstrated meaningful outcomes, its implementation faced a range of challenges and facilitators that influenced overall success.

### 6.1. Facilitators

- Strong Multi-Stakeholder Collaboration: The partnership between the Ministry of Health, Ministry of Education, non-governmental organizations, and private sector partners ensured a coordinated approach. This collaboration enhanced resource sharing, streamlined communication, and accelerated decision-making.
- Teacher Involvement and Capacity Building: Training school teachers to conduct preliminary screenings was a key facilitator. This approach enhanced program sustainability, increased screening coverage, and ensured early identification of visual problems within the school environment.
- Private Sector and Institutional Support: Technical and material support provided by Vision Care and Ananthi Eye Hospital strengthened the program's operational capacity. Their contribution in supplying screening equipment and providing expertise ensured the smooth conduct of field activities.
- Leadership and Government Endorsement: The strong leadership of program initiators and endorsement by provincial and national health authorities facilitated administrative approvals and policy support, enabling the program to be implemented efficiently across the Northern Province.

### 6.2.Challenges

- Logistical Difficulties in Rural and Remote Schools: Reaching schools located in geographically remote or rural areas posed significant logistical challenges. Limited transport facilities, poor road connectivity, and long travel distances often delayed screening activities and transportation of equipment and personnel.
- Administrative Coordination: Coordination among educational authorities, health departments, and local governing bodies was sometimes inconsistent. Delays in communication, overlapping duties, and differing priorities occasionally affected the smooth implementation of planned activities.

- Cultural Perceptions Toward Spectacle Use: Cultural beliefs and misconceptions regarding the use of spectacles were notable barriers. Some parents and students perceived wearing spectacles as a sign of weakness or associated it with social stigma, leading to reluctance in accepting corrective lenses despite medical advice.
- Compliance and Follow-Up Challenges: Ensuring continuous follow-up after initial screening was challenging, particularly in maintaining compliance with spectacle use and re-evaluation visits. The lack of structured monitoring mechanisms and difficulties in contacting families in rural areas contributed to reduced adherence.
- Scarcity of Human Resources and Equipment: The shortage of trained human resources, such as optometrists, orthoptists, and ophthalmic support staff, limited the program's coverage and efficiency. Inadequate availability of essential screening equipment and maintenance support further constrained the smooth delivery of services.

Having explored the challenges and facilitators encountered during program implementation, next chapter now reports the overall strengths, limitations, and sustainability of the program, providing a balanced assessment of its effectiveness and long-term potential.

# 07. Strengths, Limitations, and Sustainability of the Program

### 7.1 Strengths of the Program

- Leadership and Personal Commitment: The program benefitted significantly from the personal interest and dedication of Dr. Malaravan, which facilitated strong on-ground implementation despite systemic gaps.
- Cost-Effectiveness: The program leveraged CSR funding and volunteer contributions efficiently. Alaka's generous funding of USD 50,000 covered essential costs, minimizing out-of-pocket expenses for participants.
- Out-of-Pocket Contributions for Medical Team: For comprehensive eye screening, the medical team contributed through out-of-pocket expenditures, ensuring smooth execution of services.
- Public-Private Partnership Model: Collaboration between the hospital, community stakeholders, and corporate sponsors enhanced resource mobilization and engagement.

### 7.2. Limitations of the Program

- Policy and System Gaps: Absence of national policies or structured school eye health programs limited scalability and formal integration with government initiatives.
- Resource Constraints: There was no dedicated allocation for human resources, creating dependency on volunteers and external support.
- Sustainability Challenges: While initial funding and voluntary efforts enabled program execution, long-term sustainability remains uncertain without structured policy support and dedicated funding streams.

### 7.3. Cost and Resource Analysis

- Total funding of USD 50,000 was provided by Alaka, complemented by CSR initiatives and volunteer efforts.
- Out-of-pocket expenditures by the medical team and program contributors were utilized for comprehensive eye screening activities, but absence of budget allocation for human resources posed challenges for routine implementation and follow-up.

### 7.4 Sustainability Considerations

- The program demonstrates a feasible model for short-term impact through community engagement and Corporate Social Responsibility (CSR) funding partnerships.
- For long-term sustainability, integration into national health and education policies, structured funding mechanisms, and formal human resource planning are essential.

Understanding these operational challenges informs the formulation of evidence-based policy implications and recommendations for future initiatives.



## 8. Policy implications and recommendations

The insights gained from the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program underscore the urgent need for evidence-based policies and actionable recommendations to strengthen school eye health in Sri Lanka and ensure sustainable, equitable access to vision care for all children.

- Integrate Eye Health into National School Health Policy: Establish a dedicated framework for systematic vision screening, early detection, and timely intervention.
- Establish Optical Laboratories with Affordable Spectacles: Provide corrective eyewear at marginal prices to overcome financial barriers, particularly in rural areas.
- Scale-Up Model to Other Provinces: Replicate the program through strategic planning, CSR funding, and volunteer medical teams, ensuring cost-effective resource allocation.
- Strengthen Partnerships: Collaborate with NGOs and international agencies for technical support, funding, training, and program monitoring.
- Promote Early Screening: Implement mandatory Grade 1 vision checks and introduce preschool screening to detect visual impairments at the earliest stage.
- Promotion of Healthy Eye Habits:

i) Increase Outdoor Activity Hours: Incorporate structured outdoor playtime to reduce myopia risk and support overall child well-being.

ii) Teacher Training on Eye Health: Expand teacher training modules to identify vision problems, promote healthy visual habits, and monitor compliance with spectacle use.

- Advocate for Sustained Investment: Engage policymakers, health professionals, and community leaders to ensure long-term support for child eye health initiatives.

The following table 05 summarizes the key policy recommendations and actionable steps identified to strengthen school-based eye health programs and improve access to vision care for children in Northern Sri Lanka

***Table 05:Summary of Recommendations with Key Actions***

| Recommendation | Key Action / Benefit |
|---|---|
| Integrate school eye health into national policy | Standardized screening, sustainable funding, early intervention |
| Scale up to other provinces | Replicable, cost-effective model for nationwide coverage |
| Strengthen partnerships with NGOs & international agencies | Technical support, funding, monitoring, and evaluation |
| Continuous advocacy for child eye health | Maintains political & financial support; long-term impact |
| Mandatory Grade 1 vision screening | Early detection and timely intervention |
| Preschool eye screening | Early identification to prevent long-term visual disability |
| Increase outdoor activity hours | Reduces myopia risk; promotes overall health |
| Expand teacher training on eye health | Improves detection, follow-up, and promotion of healthy visual habits |

## 09. Way Forward : Phase II

Building on the successes and lessons learned from the program, the following strategies outline the way forward in phase II to ensure sustainability, continuous improvement, and broader impact in school eye health services.

### 9.1. Key Strategies and Actions

- Teachers Engagement and Training :Collect feedback from previously trained teachers,Conduct training for new teachers and ensure ongoing training for existing teachers.
- Integration and Interdisciplinary Linkages: Strengthen mechanisms to link the program with existing school health structures,Promote interdisciplinary collaboration between education, health, and community stakeholders.
- Program Monitoring and Evaluation : Analyse outcomes and outputs to assess effectiveness,Engage teachers, parents, and children to ensure program continuity,Tracking compliance with spectacle use.
- Service Provision : Continue free spectacles distribution and follow-up treatments, including support for low vision,Implement preschool eye screening to enable early detection and intervention.

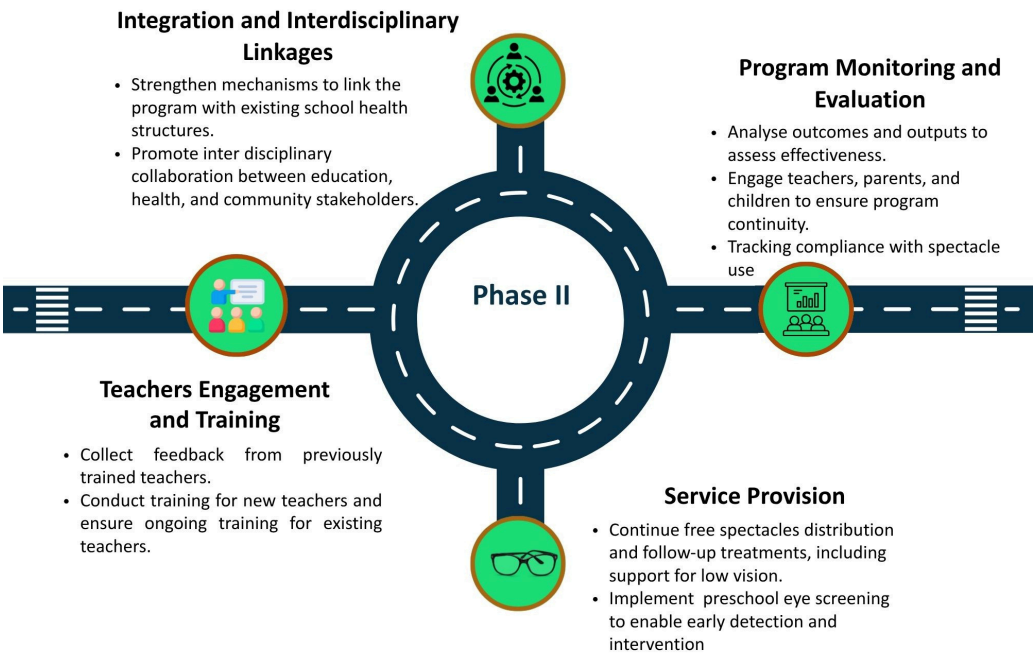



***Figure 06: A Path to Progress and Possibility.***

The table 06 below outlines the priority areas for Phase II of the school eye health program, highlighting the key actions to be implemented and the expected outcomes. It serves as a roadmap to guide program expansion, improve vision screening coverage, and ensure timely intervention for children with visual impairments.

***Table 06:Summary of areas to be focused in Phase II with key actions and expected outcomes***

| Focus Area | Key Actions | Expected Outcome |
|---|---|---|
| Teacher Engagement & Training | Collect feedback from trained teachers; train new teachers; continue ongoing teacher training | Strengthened teacher capacity and sustained program delivery |
| Integration & Interdisciplinary Linkages | Link program with existing school health mechanisms; promote collaboration among education, health, and community stakeholders | Improved coordination and integrated service delivery |
| Program Monitoring & Evaluation | Analyse outcomes and outputs; engage teachers, parents, and children | Data-driven program improvements and ensured continuity |
| Service Provision | Continue free spectacles distribution and follow-up treatments; include low vision support; implement preschool eye screening | Early detection, timely intervention, and equitable access to eye care |

## 10. Closing Reflections

As this book, Clear Vision, Bright Futures, concludes, the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program stands as a testament to the transformative impact of coordinated, school-based eye care. The lessons learned, successes achieved, and challenges encountered provide valuable guidance for future initiatives, highlighting the importance of collaboration, sustainability, and equitable access. By documenting the program's design, implementation, and outcomes, Clear Vision, Bright Futures aims to inspire ongoing efforts in school eye health, foster multi-stakeholder partnerships, and guide future programs to ensure that every child in Sri Lanka and beyond has the opportunity to see clearly, fully engage in education, and thrive in life.

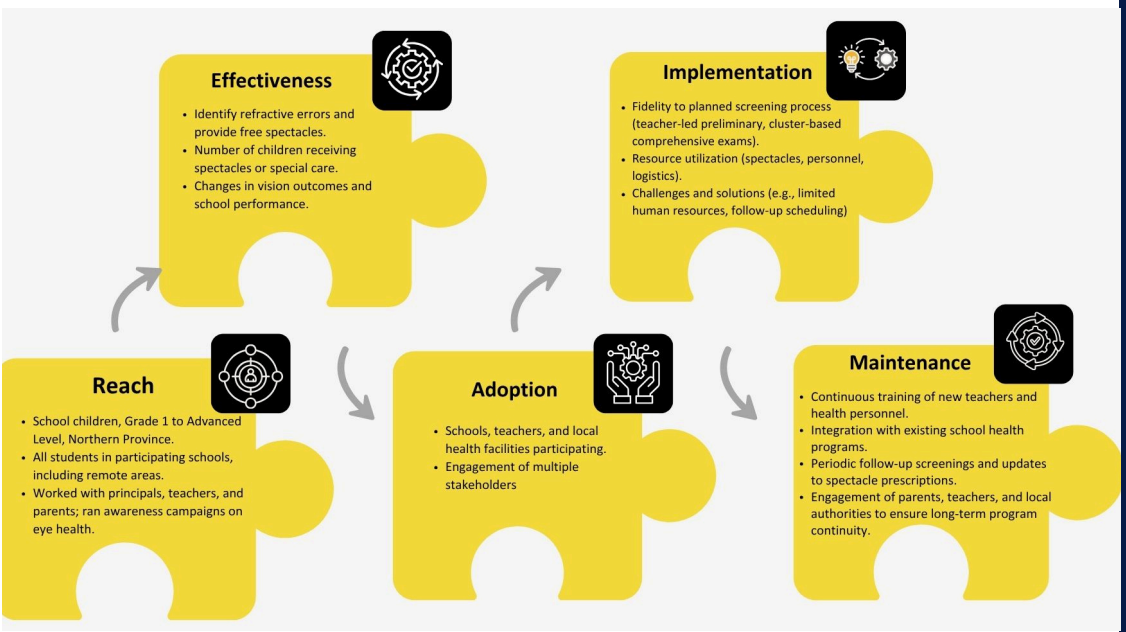



***Figure 07:Strategic Blueprint for Effective Program Implementation: Leveraging the RE-AIM Framework***

# CORE HEALTH PROJECTS

The **Center of Ophthalmic Research in Eye Health** (**CORE Health Projects**), established in 2023, is dedicated to advancing eye health services through rigorous research and innovative, evidence-based approaches. Under the leadership of Dr. M. Malaravan, CORE Health Projects integrates research activities with routine clinical service delivery, recognizing that evidence-driven solutions are essential for improving healthcare quality and addressing critical public health priorities in Northern Sri Lanka. Its mission is to generate actionable knowledge and implement sustainable interventions that enhance eye care delivery and promote better vision health for all communities in the region.


CORE Health Projects undertakes a range of research activities aimed at understanding eye health challenges and developing evidence-based interventions to improve vision care in Northern Sri Lanka as listed below.

- Quality of Cataract Surgery Outcomes:evaluating postoperative visual results to improve surgical standards.
- Hospital-Based Refractive Error Study : assessing the prevalence and patterns of refractive errors among patients attending hospital clinics.
- Opportunistic Screening for Hypertension Among Cataract Patients:integrating cardiovascular risk assessment into ophthalmic care.
- Scientific Blindness Study in Adults Aged 40 Years and Above : determining the prevalence and causes of blindness in the Northern Province.
- Community-Based Refractive Error Study: identifying unmet refractive needs at the community level to inform targeted interventions.

Collectively, these projects aim to strengthen eye care services, promote evidence-based public health strategies, and improve visual health outcomes across the region.

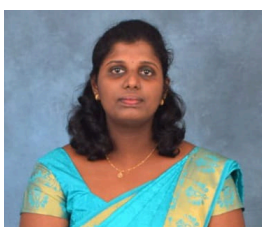
## Team Members

Dr.M.Malaravan
MBBS(Jaffna),MD(Sri Lanka),FICS in Ophthalmology
Consultant Ophthalmologist,Teaching Hospital Jaffna
Associate Member of Prevention of Blindness-Asia pacific Academy of Ophthalmology(APAO)
Council Member – University of Vavuniya

Prof.S.Kumaran
MBBS(Jaffna), DFM(Colombo), MD(Colombo)
Professor
Family Medicine,Department of Community and Family Medicine,Faculty of Medicine,University of Jaffna.

Prof.T.Kumanan
MBBS ( Jaffna), MD ( Colombo), FRCP Edin, FACP, ISHF
Chair and Professor of Medicine & Consultant Physician.
Department of Medicine,
Faculty of Medicine,University of Jaffna

Ms.Thurga Jeyaratnam
M.Sc BioMedical Science (UK)
Implementation Research Fellow
CORE Health Projects



Ms.Powsiga Uruthirakumar
Ph.D in Applied health Research-reading (UoB,UK)
Data Analyst
CORE Health Projects

Ms.Jathusha Kanmanirajah
B.Sc in Health Promotion
Research Assistant
CORE Health Projects

## Insights from the Managing Director,Ananthi Eye Hospital,Vavuniya

I formed Ananthi Eye Hospital (AEH, part of Ananthi Health Care Ltd) in Vavuniya with the aim of providing free eye care services by developing fee-paying services. I wanted to follow the business model of Aravind Eye Care services in Tamil Nadu. I knew it will take some time to achieve this aim. In the meantime, I have been providing our AEH staff as volunteers for screening villagers in Mullaithivu and Vavuniya for the past three years. These village screenings were organised by Major General Senaka Kasturimudali.When we started the school children eye screening project, Dr Malaravan requested AEH to provide resources and Ophthalmic equipment for the specialist screening. I agreed and was pleased to provide my staff and equipment such as slit lamp, autorefractor, retinoscope, lens box, etc. Apart from Jaffna district, my staff and equipment have been utilised in the specialist
screening of school children in Mannar, Vavuniya, Mullaithivu and Kilinochchi districts. I am happy that AEH were able to provide our services in a small way to the successful completion of this free spectacles program funded by Alaka Foundation. No payments were made to anyone who were involved in this project.

Dr Velautham Sarveswaran
Managing Director
Ananthi Health Care Ltd, Vavuniya

# Insights from the Chairman, Vision Care Group

Vision Care is proud to have collaborated with Dr. M. Malaravan and his team in the Nahuleswary Vasudevan Free Eye Screening and Spectacles Distribution Program—an inspiring public-private partnership dedicated to improving child eye health across Northern Sri Lanka. This initiative, conducted in Jaffna, Vavuniya, Kilinochchi,Mannar and Mullaitivu districts, reflects the power of multi-stakeholder engagement in addressing preventable visual impairment and supporting equitable access to education.

As an initial contribution, Vision Care provided over 1,000 vision charts to facilitate screenings in government and private schools across the Northern Province. Through our direct participation via Vision Care branches in Jaffna, Kilinochchi, Mannar, and Vavuniya, we actively supported comprehensive eye screenings, contributing to the identification and management of vision issues among thousands of students.

This program demonstrates the critical role of public-private partnerships in promoting child health and education. By combining expertise from medical professionals, government stakeholders, educators, and private partners like Vision Care, the initiative ensures that every child in the Northern Province has the opportunity to see clearly and succeed academically.17725 students were screened across all districts, with more than 9000 children receiving corrective spectacles and hundreds diagnosed with other eye conditions requiring follow-up care.

Vision Care remains deeply committed to supporting Dr. M. Malaravan and the Eye Unit of Teaching Hospital Jaffna in this transformative mission. Together, we aim to expand access to quality vision care, safeguard the educational outcomes of children, and foster brighter futures for the next generation in Northern Sri Lanka.

Mr. Dasantha R. Fonseka
Chairman, Vision Care Group

# AUTHOR'S PERSPECTIVE

As an ophthalmologist, I have always been deeply committed to reducing preventable blindness in Northern Sri Lanka. From successfully eliminating the cataract backlog and achieving a zero waiting list in the Northern Province, I have now turned my focus towards the eye health of school-aged children, recognizing that early vision care is critical for educational and developmental outcomes.

Clear Vision, Bright Futures: Nahuleswary Vasudevan Free Eye Screening and Spectacle Distribution Program reflects this journey. I conceived the program knowing how vital early detection of vision problems is for children. Through public-private partnerships and active multi-stakeholder engagement, we trained teachers, screened over 17,000 students, and provided affordable spectacles to those in need. Witnessing children regain clear vision and participate fully in their classrooms was profoundly rewarding and reaffirmed the importance of community-driven, evidence-based interventions.

Our findings highlighted ongoing challenges, including low spectacle coverage, higher myopia prevalence in urban schools, and significant rates of amblyopia among younger children. These insights have shaped Phase II of the program, which will focus on preschool and Grade 1 screenings, establishment of optical laboratories offering spectacles at marginal prices, promotion of healthy eye habits through outdoor activity and teacher guidance, and strengthened monitoring with multi-stakeholder collaboration.

Through this work, I hope to demonstrate that structured, sustainable, and evidence-informed eye health programs can prevent long-term visual impairment, improve educational outcomes, and positively impact the lives of children across the Northern Province.

Dr.M.Malaravan
Consultant Ophthalmologist
Teaching Hospital Jaffna.

# EDITORIAL SUPPORT

The preparation of Clear Vision, Bright Futures was made possible through the dedicated efforts of the editorial and support team. Ms. Thurga Jeyaratnam played a pivotal role in drafting, designing, and formatting the book, ensuring that the content was both clear and visually engaging. Her meticulous attention to detail helped maintain the accuracy, coherence, and professional presentation of the material. Ms. Powsiga In and Ms. Jathusha provided essential support through data entry, data analysis, and thorough proofreading, contributing significantly to the readability, structure, and overall quality of the publication. Their combined efforts were invaluable in bringing this work to fruition, enabling the book to effectively communicate the vision, methodology, and outcomes of the Nahuleswary Vasudevan Free Eye Screening and Spectacle Distribution Program. This collaborative dedication has been instrumental in transforming complex program data and insights into a comprehensive, accessible, and impactful resource for policymakers, educators, and healthcare professionals.

# REFERENCES


Alrasheed SH, Naidoo KS, Clarke-Farr PC. Prevalence of visual impairment and refractive error in school-aged children in South Darfur State of Sudan. Afr Vis Eye Health. 2016 Oct 27;75(1):1–9. https://doi.org/10.4102/aveh.v75i1.355

Academic Performance of High School Children of Lahore. Frontiers in public health, 10, 869294. https://doi.org/10.3389/fpubh.2022.869294

Atowa, U., & Hansraj, R. (2019). Visual problems: a review of prevalence studies on visual impairment in school-age children. International Journal of Ophthalmology, 12(6). https://doi.org/10.18240/ijo.2019.06.25

Banagala. C. at.al. (2018). Prevalence, causes, magnitude and risk factors of visual impairment and blindness in Sri Lanka. Ceylon Medical Journal. 63 (S2). DOI: http://doi.org/10.4038/cmj.v63i5.8736

Castanon Holguin, A. M., Congdon, N., Patel, N., Ratcliff, A., Esteso, P., Toledo Flores, S., Gilbert, D., Pereyra Rito, M. A., & Munoz, B. (2006). Factors associated with spectacle-wear compliance in school-aged Mexican children. Investigative ophthalmology & visual science, 47(3), 925–928. 0).

Eckstein, M. B., Gilbert, C. E., & Foster, A. (1995). Causes of childhood blindness in Sri Lanka: results from children attending six schools for the blind. British Journal of Ophthalmology, 79(7), 633–636. https://doi.org/10.1136/bjo.79.7.633

Gopalakrishnan, A., Hussaindeen, J. R., Sivaraman, V., Swaminathan, M., Wong, Y. L., Armitage, J. A., Gentle, A., & Backhouse, S. (2022). Prevalence of myopia among urban and suburban school children in Tamil Nadu, South India: findings from the Sankara Nethralaya Tamil Nadu Essilor Myopia (STEM) Study. Ophthalmic & physiological optics : the journal of the British College of Ophthalmic Opticians (Optometrists), 42(2), 345–357.

Gul, Ambreen & Raza, Ali. (2014). Visual Screening and Refractive Errors among School Aged Children. Journal of Rawalpindi Medical College. 18. 97-100.
Hashemi, H., Fotouhi, A., Yekta, A., Pakzad, R., Ostadimoghaddam, H., & Khabazkhoob, M. (2017). Global and regional estimates of prevalence of refractive errors: Systematic review and meta-analysis. Journal of Current Ophthalmology, 30, 3 - 22.

He M, Zeng J, Liu Y, Xu J, Pokharel GP, Ellwein LB. Refractive error and visual impairment in urban children in Southern China. Invest Ophthalmol Vis Sci. 2004;45:793–799

# REFERENCES


International Agency for the Prevention of Blindness. (2024, October 10)

Latif, M. Z., Hussain, I., Afzal, S., Naveed, M. A., Nizami, R., Shakil, M., Akhtar, A. M., Hussain, S., & Gilani, S. A. (2022). Impact of Refractive Errors on the Academic Performance of High School Children of Lahore. Frontiers in public health, 10, 869294.

Nguyen, H. T., Ghorbani-Mojarrad, N., Cufflin, M., & Mallen, E. (2025). Prevalence of refractive errors in Vietnamese school children: a meta-analysis. Clinical & experimental optometry, 1–14. Advance online publication. https://doi.org/10.1080/08164622.2025.2551751

Ntodie, M., Quarshie, D., Mordi, P., Okyere, K. O., Abokyi, S., & Nti, A. N. (2025). Impact of uncorrected refractive errors on eye-related quality of life and functional vision in a cohort of African children. Ophthalmic & physiological optics : the journal of the British College of Ophthalmic Opticians (Optometrists), 45(6), 1410–1422. https://doi.org/10.1111/opo.13529

Pradhan, Dr & Sachdeva, Abhishek & Goel, Tushar & Bhola, Bhumika & Jha, Dolly. (2018). Prevalence of refractive errors among school children of 6-12-years of age group and reason for not using spectacles even after correction. International Journal of Research in Medical Sciences. 10.18203/2320-6012.ijrms20180444.

Pirindhavellie, G. P., Yong, A. C., Mashige, K. P., Naidoo, K. S., & Chan, V. F. (2023). The impact of spectacle correction on the well-being of children with vision impairment due to uncorrected refractive error: a systematic review. BMC public health, 23(1), 1575. https://doi.org/10.1186/s12889-023-16484-z

Rosner J, Rosner J. The relationship between moderate hyperopia and academic achievement: how much plus is enough? J Am Optom Assoc. 1997;68(10):648–650.

Sheeladevi, S., Seelam, B., Nukella, P. B., Modi, A., Ali, R., & Keay, L. (2018). Prevalence of refractive errors in children in India: a systematic review. Clinical and Experimental Optometry, 101(4), 495–503. https://doi.org/10.1111/cxo.12689

Thariq, Thalal & Thananchayan, Hamsha & Seniviratna, Chamindu & Jayawardana, Dushyanthi. (2022). Prevalence, knowledge and factors associated with refractive errors in grade 9 students in selected schools in the Colombo district. Ceylon Journal of Medical Science. 59. 25-31. 10.4038/cjms.v59i1.5000.

World Health Organization. (2024). Vision and Eye Screening Implementation Handbook (VESIH). Geneva: World Health Organization.

*“See the world through the eyes of children whose lives were transformed by a school-based eye screening and free spectacles program in Northern Sri Lanka. This book highlights how simple, cost-effective interventions can improve education, health, and social development, providing evidence, and lessons that inspire action and change”.*

*-Dr.M.Malaravan,Author*
*Consultant Ophthalmologist*
*Teaching Hospital Jaffna.*