Primary School Vision Screening Involving Teachers in Nampula, Mozambique.

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Primary school vision screening involving teachers in Nampula, Mozambique.


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Introduction

Childhood blindness and Uncorrected Refractive Error are two of the main priorities of the Vision 2020 initiative. 1 Pedagogic Eye Health was prioritized in the last national ophthalmology plan for Mozambique; training teachers to identify vision impairment in school children and distributing binoculars charts were among the planned activities. 2 There is no current plan for a national child eye care programme or existing human resource infrastructure to address the immediate challenge of child eye health in Mozambique. Some child eye health screening programmes have been carried out sporadically in some provinces; no data from these screenings has been published yet. Furthermore, the prevalence and incidence of refractive error, visual impairment and child blindness in Mozambique is unknown. Visual impairment and blindness in children has devastating personal, developmental, social and economic implications for the child, the family, the community and the nation.3, 4

Aims

This study aims to design, implement and evaluate a simple vision screening performed by teachers, to identify those in need of eye health services, among Mozambique’s children (estimated at over 10 million). 5

Materials and methods

Setting and Participants

Primary School Screening took place in three schools (urban, suburban and semi-rural) in Nampula, Mozambique in September 2010 (Study 1), March 2011(Study 2) and March 2012 (Study 3).

Due to the volume of children in each school (over 1000) and lack of resources, children with obvious eye abnormalities or children identified by teachers as having eye problems or poor vision were sought out and underwent screening along with a random selection of children. Teachers were selected to perform screening based on willingness to participate.

Study Procedures

Teachers were given a very brief tutorial on how to perform vision screening with the chart (figure 1(a)). They then performed the test monocularly on the child and indicated if the child could see with the right eye and left eye (blue arrow). 5

The child then underwent the full screening protocol (green arrow Figure 2). The results were recorded on the charts as seen in figure 1(a). These students were carried out in classrooms with varying room illuminations.

Figure 1. 1(a)Screening Chart, 1(b)Optometrist screening sheet, 1(c)Teacher screening sheet

Screening Protocol

A subject was classified as myopic if either eye was myopic and hyperopic if either eye was hyperopic and if they had not been previously classified as myopic, as per the Refractive Error Study in Children (REST) protocol. 6

Myopia was defined as ≤ 0.08 D in the better eye and a spherical equivalent of ≤ – 0.08 D in the worse eye. Hyperopia was defined as ≥ + 0.75 D. Astigmatism was defined as ≥ + 0.75 D and can be present with myopia or hyperopia. Ocular health abnormalities were performed on all children by qualified optometrists.

Results

During Study 2 and 3, 206 children had the vision screening performed by 24 teachers. Of the 223 children screened the teachers identified 174 pass and 49 fails. On further screening (as outlined in Figure 2) 200 of these children were normal, 9 required refraction and 14 required referral for ophthalmological assessment. Further analysis of these results will be done at a later date.

Figure 4. Pie Chart of the Relative Prevalence of Refractive error in school children in study 1 and 2.

References

9 The Monkey Project for Mozambique Eye Health, Children at various stages in the screening process.

Acknowledgments

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For further information

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