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. Primary Eye Health was prioritised in the last national ophthalmology plan for Mozambique; training teachers to identify vision impairment in school children and distributing school lenses were among the planned activities. 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.2

Aims

This study aims to design, implement and evaluate a simple vision screening protocol performed by teachers, to identify those in need of eye health services, among Mozambique’s children (estimated at over 10 million).3

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

1. Teachers were given a very brief tutorial on how to perform vision screening with the chart (figure 1a). 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 Figure 2).
2. The child then underwent the full screening protocol (green arrow Figure 2). The results were recorded on the charts as seen in figure 1.

Results

During Study 2 and 3, 208 children had the vision screening performed by 24 teachers who were eager to participate in the study. 17 children had the screening performed by 2 teachers. Of the 223 children screened the teachers identified 174 passes and 49 fails. On further screening (as outlined in Figure 2) 209 of those 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.

Conclusions

These studies found that there is a cohort of students attending school in Nampula who are in need of eye care service provision. Refractive Error was present in those students tested in these studies but none of the children observed wore spectacles. The training received by these teachers was very brief but teachers appear to have an adequate level of education and interest to undertake vision screening in children. The ideal teacher profile for Vision Officers within schools is trainee teachers who can be taught the basics of vision screening and eye health through their existing studies.

Acknowledgments

Optometry Department of UniLíério and partners of the Mozambique EyeCare Project mentioned below.

References


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

Figure 2. Schematic of screening process each child underwent. A subject was classified as myopic if either eye was myopic and hyperopic if either eye was hyperopic and far-sighted. The prevalence and incidence of refractive error in children (RESC) protocol.

Figure 3. School children at various stages in the screening process.

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

Figure 5. Bar Chart with the breakdown of ocular abnormalities detected.

Ocular Abnormality Detection Rate of Eye Conditions in Nampula School Children.

The most common causes of referral for ocular health abnormality included, cataract (26.62%), pros (23.19%), and glaucoma (15.18%).