

# Productivity of key informants for identifying blind children: evidence from a pilot study in Malawi

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## Abstract

**Objectives** To determine the productivity of village-based 'key informants' (KIs) in identifying blind children.

**Materials and methods** Ngabu subdistrict (population 101 000) of Chikwawa district was divided into KI catchment areas. KIs, selected by local village leaders, were trained to register children reported to be blind or with severe visual impairment. These children were clinically assessed at designated centres.

**Results** In total, 44 KIs were selected and trained to cover 196 villages in Ngabu. They identified and referred 151 children, 37 of whom were blind (presenting vision <3/60 best eye). Overall, village leaders tended to choose female KIs (80%) compared to male KIs (20%); however, male KIs tended to be more productive, identifying 4.22 children each (compared to 3.23 for female KIs). Male KIs were 2.7 times more likely to identify blind children compared to female KIs. Only 25% of all identified blind children of school going age were in school.

**Conclusions** KIs may be effective in identifying blind children in the community; however, additional work is needed to determine who will be the most effective KI in a community and whether gender roles will limit interpretation of findings from KIs activities.

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**Keywords:** Malawi; key informants; childhood blindness

## Introduction

Childhood blindness is one of the five priority diseases that have been targeted by the VISION

2020 initiative.<sup>1</sup> WHO reports that there are 1.4 million blind children and about four times this number have low vision.<sup>2</sup> Previous research in Malawi demonstrated that many children, although recognized with surgically correctable blindness, have not accessed available services.<sup>3</sup> The use of community-based rehabilitation workers or school-based screening to identify children has not been generally productive.<sup>4</sup> Recent evidence from Bangladesh suggests that the trained key informants (KIs) are very effective in identifying children in an Asian setting.<sup>5,6</sup> KIs are people living in their respective communities who are well-known and connected through their occupational and/or social roles. Through their unique positions in the communities KIs are likely to know about children with blindness or severe visual impairment or people who would notify if a child has such visual loss. In densely populated Bangladesh, it is relatively easy to organise communities to identify children with visual difficulties.<sup>7</sup> Africa is much more sparsely populated and has less well-organized community structures, posing challenges that may limit the application of a KI method. We sought to assess the productivity of KI to better understand the potential value of this methodology in an African setting.

## Methods

Ethical approval to do the study was obtained from the Ethics Committee of the London School of Hygiene and Tropical Medicine and the district administrative authorities in Chikwawa district, Malawi.

The study area was Ngabu subdistrict (estimated population 101 000) of Chikwawa district.<sup>8</sup> There are 196 villages (population

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ranging from 300 to 1100 per village) and we estimated that 40 KIs were needed, with each KI covering at least five villages (about 2500 people). The estimate was based on the current practice of a community eye health worker covering five villages. There is one school for the blind in Ngabu. The study was carried out over a period of 6 weeks in mid-2006.

Selection of the KI was done by village leaders, the criteria for selection being that the person had lived in and knew that community well, was willing and had time to do voluntary work, and was able to read and write. The village leaders were approached a few weeks before the study to consult and decide who would be the appropriate KI in their villages. Assignment of villages for the KI was based on consultation with village leaders and on the proximity of the KI to villages. One ophthalmic clinical officer and one itinerant teacher working in the area were responsible for training the selected KI (two groups of approximately 20 each). The training was one half-day in duration and focused on how they would register blind children in the community as well as some practice. The approaches adopted by the KI included the following: announcing in local churches that the KI needed to see all children with visual impairment, encouraging village headman to call a village meeting to request that children be brought to the KI, and visit by the KI to orphan care settings in selected villages. Some KIs met women groups in communities and one KI used a political mass meeting as an opportunity to have children with vision problems brought forward. Only a few KIs reported to have visited house to house. All KIs were given at least 7 days (after training) to visit their allocated villages, identify the blind children, and inform parents of a date and place for examination. At predetermined sites, the examiner met the KI and identified children; all children were screened by the principal investigator. After vision testing, children found to be blind were examined and information gathered using a modified WHO questionnaire for childhood blindness surveys.<sup>9</sup> All children who were in need of further treatment and follow-up were referred to the appropriate personnel. The area covered by the KI was verified using random village checks. Data were entered and analysed using Epi info 6.4 and Stata version 9.0.

## Results

From the 196 villages originally planned for the study, 185 villages (94%, population about 91 500, about 43 000 of whom were children under 16 years of age) were included. Eleven villages were not included because they were situated across the river and the only means of accessing the villages was by canoe.

In total, 44 KIs were trained, 35 (80%) of whom were women and 9 (20%) were men. The KIs were relatively young (mean age 30.6 years), ranging from 20 to 60 years.

In total, 151 children were identified and referred to the agreed examination centres by the KI; each referring between 0 and 9 children (average = 4). Six KIs reported not finding any blind children in their village. Nine male KIs referred 38 children (average = 4.22 each), while 35 female KIs referred 113 children (average = 3.23)

After vision testing and examination by the ophthalmologist, 37 of 151 children (24.5%) were confirmed to be bilaterally blind (presenting vision <3/60 in the better eye), giving a prevalence of 0.9 per 1000 children. The remaining children had either unilateral blindness or visual impairment; no child brought by KIs had normal visual acuity. Male KIs were just as likely to identify boys and girls with vision loss as female KIs. Nine male KIs brought 15 blind children (1.67 per KI), whereas 35 female KIs brought 22 blind children (0.63 per KI). Male KIs were 2.7 times (95% CI 1.21–6.00) more likely to identify blind children from among those brought for examination than female KIs.

Among 37 blind children, 28 (76%) were of school going age (6–15 years), only 7 (25%) of whom were in school. Among the seven attending school (four boys, three girls) four were at an integrated school, two were at a normal school and one was at a school for the blind.

All children identified with operable conditions or who could be improved with correction were referred to the appropriate centres for treatment.

## Discussion

Most of the 151 identified children had obvious severe unilateral eye problems, with one in four being unilateral blind by WHO criteria. It is possible that some blind children were not identified by KI; however, they are probably few in number since follow-up checks with village leaders revealed that all villagers had been visited by a KI and KIs were familiar with their work.

Village leaders were more likely to select women KIs. The selection of women as KI was anticipated since responsibilities regarding health of children primarily lies with women. Most men in this area work in sugar plantations and are not living at home. The women KIs reported that they felt that it was their duty as mothers to ensure that all the blind children were identified. In spite of these community preconceived parameters regarding roles and responsibilities, male KIs were more productive.

Reasons for lower female productivity could be due to literacy (educational attainment of women may have limited their understanding during training), inability to travel distant from their homes, less assertiveness in

promotion of their activities, and other family responsibilities. It is also possible that parents, perceiving men as having greater authority when interacting with health care providers, were more likely to bring children forward for treatment. The implication of this is that the KI method, although useful in identifying children who are blind or with severe visual impairment, may have an uneven coverage. Qualitative work is needed to further understand gender roles that empower or disempower men and women to identify blind children.

However, KIs identified 28 school age children who were blind, 75% of whom not going to school, in spite of the fact that there is both a school for the blind and an integrated school in the area. Further research is needed to determine whether KIs can be effective in assisting children in placement in an appropriate educational setting.

In summary, our findings suggest that a KI method may be an effective tool for identifying blind children in rural Africa. Referral networks also need to be created for children who could benefit from education and rehabilitation. It is unclear whether KI can become long-term advocates of childhood blindness, or whether they will only serve as a (one time only) 'burst' to identify children in the community. Understanding the potential roles and responsibilities of KI and comparison with other community health workers is needed.

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