

## **Letter to the editor**

### **Role of community volunteers in pediatric eye screening**

Mohan Krishna Shrestha, Ujjowala Devi Shrestha  
Tilganga Institute of Ophthalmology, Kathmandu, Nepal  
Email: mohan.shrestha@tilganga.org

Dear Editor,

Globally, childhood blindness is one of the priority areas that needs to be addressed to achieve the goal of vision 2020 (Gilbert and Foster 2001). In developing countries including Nepal, the existing eye care resources do not allow the children to easily utilize these facilities. Thus, effective measures need to be established to promote the eye health of the children.

Visual disability, particularly in children, can lead to a high mortality, economic loss and burden to the individual, family, community and the nation as a whole (Holden 2007; Roberts, Hiratsuka et al. 2010). Approximately 30,240 children are estimated to be blind in Nepal (Apex Body for Eye Health, Ministry of Health and Population, Nepal, 2011). One of the reasons of this high number might be due the prevalent gender inequality in Nepal (Shrestha, Chan et al. 2012). Early referral, community intervention, treatment and follow-up in an effective model are needed to reduce the burden of avoidable childhood blindness (Bowman 2005).

#### **Human resources for eye health**

In Nepal, the required human resource (HR) in pediatric ophthalmology is not adequate. Training and efficient distribution of HR are the main challenges in this respect. There are only ten pediatric ophthalmologists in the country. About thirty specially-trained paramedics are available to the pediatric services. A few institutions are providing training to produce HR for pediatric care. To fill the gap and make screening services available, new approaches need to be developed (Apex Body for Eye Health, Ministry of Health and Population, Nepal, 2011; Shrestha, 2011).

#### **Project implementation**

The Himalayan Childhood Blindness Alleviation and Eye Health Education Initiative Project was run from 2007 to 2010 in six districts of Central Development Region of Nepal under the management of the project team of the Tilganga Institute of Ophthalmology (TIO). This project was funded by USAID, A2Z, AED and the Himalayan Cataract Project, USA. The project team mobilized the community volunteers (traditional healers (TH), primary school teachers (PST) and female community health volunteers (FCHV)) for screening the eyes of the children at the household level. There was a good coordination with the District Health Office (DHO) and District Education Office (DEO). The DHO and DEO played the main role in selecting volunteers in their respective districts in such a way that in each Village Development Committee (VDC) there was at least one volunteer. Initially, three different groups of volunteers were selected. Those were THs in Rasuwa and Nuwakot PSTs in Sindhupalchowk and Makawanpur districts and FCHVs in Dhading and Bhaktapur. The objective of the project was reduction of childhood blindness and improvement of eye health through the provision of pediatric eye care services. The services included screening, examination and treatment of any abnormal eye conditions and diseases in the pediatric age group of the communities

of the six districts. The target was a house-to-house enumeration by the community volunteers of about 300,000 children. During the project period, 379 community volunteers (FCHVs, STs and THs) were trained. The volunteers screened 40,4371 children and examined 62,579 children at the district and tertiary eye centres. During that period, 1,705 children underwent surgeries. Thus, the project was successfully completed, having achieved the objectives and targets. The volunteers' training was conducted in one to three days, depending on the requirement. The project team provided the training for three days for the THs, two days for the FCHVs and one day for the PSTs. The training, which included developing basic skills to record visual acuity, recognizing normal and abnormal eyes and developing a general knowledge of the common eye diseases in children, was conducted by trained ophthalmic assistants. Snellen distance visual acuity charts (six meters) were used to measure the visual acuity of children of age five years and above. Torch lights were used to categorise whether the children under five years followed light or not. The field administration mechanism was developed to help the community volunteers as required. Community eye centre (CEC) staff and the central team were involved in monitoring and evaluation of the volunteers' activities on a monthly basis. Previous studies show that the utilization of community health volunteers like FCHVs play a vital role in the success of the community health interventions in Nepal (Nicoletti and Flater, 1975).

### **Screening of children**

The TIO implemented the screening project through a house-to-house enumeration in the intervention districts by the community volunteers. During the three-year period, 390,993 children in the age group of 0 to 14 years were screened. The staff from the CEC screened 10,829 children in the community. Regular monitoring of the CEC staff was done by the project team. There is much evidence that early screening services mitigate the prevalence of blindness in the community level where there is a lack of comprehensive eye health services (Dorairaj, et al. 2008).

### **Validation of the screening**

The ward is the smallest administrative unit of Nepal. Ten percent of the wards from each district were randomly selected for validation of the screening projects. Ophthalmic technicians re-screened 6,365 from the districts for the data validation. The results showed that visual acuity and impression (normal and abnormal eyes) were not accurate in 7 to 17 % of the children. The variation was less in the work of the FCHVs and high in that of the THs. This was probably because of the illiteracy of the THs. Also, the primary responsibility of the FCHVs is in the community. Hence, they were able to do the screening more efficiently.

### **Benefits of utilization of community volunteers**

Community volunteers have a direct relationship with the local people. They have the positive influence in the health care of their community. The people in many rural regions of Nepal are not aware that their children's eye health should be given a greater priority. Hence, they are reluctant to seek treatment or examination at major eye hospitals, eye clinics, eye centres or health centres. Community screening allows early identification of at-risk children ensuring that those in need are referred to an appropriate eye health centre for further management (Bowman 2005; Chou, et al 2011). The screening helps in early identification and referral of children with eye problems to eye centres with pediatric eye care services. This helps to increase the overall awareness of the rural communities of the importance of child eye health.

## Conclusions

Community volunteers can be effectively involved in pediatric eye screening programs in countries where trained human resources are scarce. Any program conducted with the help of volunteers is cost effective as well.

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