

Participatory Rural Appraisal to Detect Childhood Blindness in Community

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ABSTRACT

Introduction: To evaluate the role of participatory rural appraisal (PRA) in community based rehabilitation (CBR) to detect and manage childhood blindness from rural community. **Methods:** Fifteen rural project areas with pre-existing CBR project were shortlisted. Main criteria of this selection were pre-existing CBR project with significant number of children with visual impairment. We have adopted PRA methodology to reach the rural community whilst aiming to detect childhood blindness. PRA approaches were also utilized to achieve immunization, spacing between child birth, proper maternal and child health and overall improvement of life-style. Information about the villages was collected from villagers by social mapping performed by the villagers themselves. Student's t test was used to analyze the result. **Results:** 128 children (CBR program) with visual disability were identified out of which 77.14% were blind and 22.86% had SVI. After adopting PRA approach 84 new cases ($p < 0.05$) were detected of which 71.43% were blind and 28.57% had SVI. Main causes of blindness were cornea related (31.28%), lens related (21.72%) and buphthalmos (17%). Immunization of child improved from 11% to 81% ($p = 0.011$) over a period of one year. Common practices including food habit, spacing between child births improved. 41% children are mobilized to blind school for rehabilitation. **Conclusion:** PRA methodology is a new approach in community ophthalmology and is very promising to detect and rehabilitate visually impaired children. PRA is very useful to improve knowledge, to plan rehabilitation as well to treat underlining causes of childhood blindness.

Key words: Participatory Rural Appraisal, Childhood blindness, Community, Social mapping, Immunization

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INTRODUCTION

Public health in developing countries is a strange paradox. Because majority of health resources are located in urban area where less population lives whereas less health resources are located in rural area where more of the population lives. Due to absence of quality primary healthcare and low awareness among poor on availing such care, they are availing care from dubious sources or foregoing care leading to rise in morbidity and mortality in the rural community.

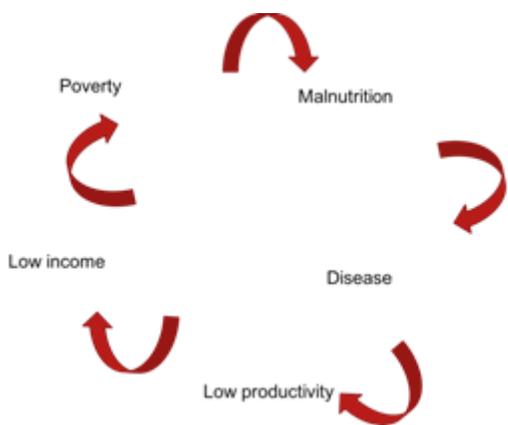
Participatory Rural Appraisal (PRA) is an interactive approach in research that emphasizes local participation, which enables local people to contribute in their own appraisal, analysis and plans. PRA aims to facilitate information sharing among stakeholders. The objective of PRA is to enable development workers, government officials, and local people to work together to plan appropriate programs. PRA is not new in development process. It has evolved from Rapid Rural Appraisal (RRA) and has been implemented in several development projects.¹ However, its uses in

community ophthalmology as an alternative methodology is limited.

As we are aware of the fact that about 1.4 million blind children in the world². Every minute, somewhere in the world, a child goes blind and nearly half a million children develop blindness each year. Ninety per cent of blind children die before reaching adulthood usually from malnutrition. It also has been estimated that nearly a third of the global economic cost of blindness is due to childhood blindness. However, positive aspect of childhood blindness is about 45 percent of blindness in these children could have been prevented or treated. Present existing approaches are very effective to diagnosing childhood blindness from the community. However, impact of these approaches in the society is debatable. Despite implementation of several approaches in the rural community, it has been observed that prevalence of childhood blindness is not significantly decreasing.

This is the vicious circle of poverty and poor health and it does exist in rural areas of developing countries like India. Presently all community approaches

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are focusing on diagnosing and treating the diseases. However, time has come to think to reduce causes of childhood blindness as a whole from the community.

So, the purpose of this study is to evaluate the role of PRA to detect and manage childhood blindness in a rural community. This prospective non randomized study was initiated in the year 2012 and is still ongoing.

METHOD AND METHODOLOGY

Fifteen rural villages with pre-existing CBR project are selected. Main criteria of this selection are pre-existing CBR project with significant number of visually impaired children. PRA methodology is adopted to reach out to the rural community to detect childhood blindness, to improve knowledge and general health along with eye care. PRA approaches were also utilized to improve immunization, spacing, proper maternal & child health and overall improvement of lifestyle. WHO classification of blindness is used to categorize the cases. Student's t test is used to analyze the result.

First step of the PRA approach is site selection and preliminary site visit. The villages were selected based on certain criteria like distance from base hospital, size of villages and socioeconomic status. However, foremost important criterion for selection is active participation by the villagers for the PRA activities. The next step is announcement of activities in the villages and we used locally available resources to spread the information.

Most important step is data gathering regarding child health in the community and social mapping is very suitable to gather information from the villagers (Figure 1). Most villagers took part in social mapping and they used locally available materials like pulse, bangles, stones, toilet papers etc. to denote important structures of the villages. The next step is preparation of action plan, and we visited houses of villagers to know the environment they are living in. Health awareness lectures by a local ophthalmologist from nearby existing health centre were also arranged and conducted. The basic idea to involve the local ophthalmologist is to build relation with the villagers so that they can visit the nearby existing health centre in future for eye care. Besides gathering data on childhood blindness, we also encouraged strategies to improve health. Simple practices like hand washing, safe drinking water, safe disposal of excreta, well ventilated house, proper drainage, use of mosquito nets, vaccination, spacing between child birth, balance diet, rehabilitation etc. can improve the child health in the rural community. We also organised evening free eye check-up camps in each village. As majority of villagers are daily wagers or cultivators, and hence evening eye camp approach was very well accepted. Final step of this approach is monitoring of activities and matrix index which was very useful for this purpose.



Figure 1: Social mapping to gather information of child health.

Table1: Demographic pattern.

Age group	Sex	Total No
0-16 years	Girl	2970
	Boy	2767
Old Cases	Girl	68
	Boy	60
New Cases	Girl	51
	Boy	33

RESULTS

5737 children of age group 0-16 years were enrolled. Out of which 2970 are girls and 2767 are boys (Table 1). 128 children with visual disability were identified before implementation of this project and out of which 77.14% were blind and 22.86% had SVI. After adopting the PRA approach 84 new cases ($p < 0.05$) are detected of which 71.43% are blind and 28.57% has SVI. Main causes of blindness are cornea related in 31%, lens related in 21%, retina related 15%, congenital defect in 11%, buphthalmos in 8% and unknown in 14% cases. Matrix ranking shows improvement over a period of 1 year. All three parameters namely eye health, lifestyle of children and utilization of available health care system showed improvement over 1 year after implementation of this approach. Immunization rate improved from 11% to 81% ($p = 0.01$), Spacing between child birth from 12% to 43% ($p < 0.05$). Vision of 9% blind child improved after intervention. Rehabilitation of blind children is very important as in majority of cases treatment is not possible due to delayed diagnosis and also each blind child has to live prolonged blind years. It is observed that after adaptation of this PRA approach, rehabilitation rate has improved from 11% during CBR project to 41% after adopting PRA approach, which was statistically significant.

DISCUSSION

Prevalence of blindness in children is lower than in adults.³ But, the number of “blind years” due to all causes of blindness in children is almost equal to the number of “blind years” due to cataract in adults.^{4,5} Many of the causes of blindness in children are either preventable or treatable.⁴ WHO classification of blindness as a corrected visual acuity in the better eye of less than 3/60, and severe visual impairment as a corrected acuity in the better eye of less than 6/60 is followed to categorize the cases.⁴ The causes of blindness in children vary widely from region to region.^{4,5,6} Cornea related blindness mostly due to malnutrition and vitamin A deficiency is still rampant in most of the rural area of developing countries. Rehabilitation of non-treatable cases is very essential as they have to live prolong blind years. However, this is still a challenge in most of the backward areas of developing countries due to social stigma and superstitious beliefs. PRA like methodology allows active participation from the local community in the form of voicing their own ideas and concerns, and at the same time expressing their knowledge about the past and present. The local community gets to present their own priorities for development and see their ideas incorporated into development plans.

PRA approaches have developed out of the Rapid Rural Appraisal (RRA) techniques which were first systematized in the late 1970s, and which had become academically respectable by the end of the 1980s.⁷ PRA has three broad advantages in addition to the speed and cheapness like RRA. First, the information it provides tends to be highly accurate. This is partly because, as experience has shown, local people’s knowledge of local conditions is often greater than had been supposed, as is their capacity to map, model, estimate, rank, diagram and plan. Second, plans drawn up in a participatory manner by local people are more likely to work than plans drawn up by outsiders. Third, most important of all, the participatory nature of the process is a development benefit in itself, in terms of empowering local people.

PRA can also provide authentic input from the community for the government to plan relevant programs. PRA will establish better linkages between communities, the agencies and institutions involved in rural community development. Therefore, interaction between communities and researchers can reduce the social barriers.¹

CONCLUSION

Avoidance or prevention should be the strategy for childhood blindness as treatment is not possible in majority of cases. PRA methodology is a new approach in community ophthalmology and is very promising to detect and rehabilitate visually impaired children. It is very useful to improve knowledge, to plan rehabilitation as well to address underlining causes of childhood blindness.

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CONFLICT OF INTEREST

None

ABBREVIATIONS USED

PRA: Participatory Rural Appraisal; CBR: Community Based Rehabilitation; WHO: World Health Organization.

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