ORIGINAL

Eye care project in Gaur, Nepal

Kamal B. Khadka, Takeshi Naito*, Makoto Kajima, Hiroshi Shiota*, Junsuke Akura, and Takayuki Kiryu†**

*Gaur Eye Hospital, Purenwa Durbar, Gaur, Rautahat, Nepal ; * Department of Ophthalmology and Visual Neuroscience, Institute of Health Biosciences, The University of Tokushima Graduate School, Tokushima, Japan ; ** Department of Ophthalmology, Kushimoto Rihabiri Center, Kushimoto, Wakayama, Japan ; and † 24 Hour Television Charity Committee Nepal, Kathmandu, Nepal*

Abstract : Purpose : The aim of the eye care project is to clear the backlog of cataract blindness for the people of Gaur and its surrounding districts in southeast Nepal. The purpose of this study is to analyze the progress of this eye care project.
Methods : In mid 1997, the Nepal Netra Jyoti Sangh (NNJS), the national society for comprehensive eye care in Nepal, with financial support from the Association for Ophthalmic Cooperation to Asia (AOCA) and the 24 Hour Television (24HTV) Charity Committee established an eye hospital in the district headquarters of Gaur under the name of Narayani Eye Care Project (NECP). The hospital provides surgery, an outpatient department (OPD) and emergency services. We analyzed the number of patients, the number of surgeries and the profile of patients.
Results : The hospital was found to be providing services with modern equipment and instruments and the number of patients frequenting it had increased in accordance with the improved services. From mid 1997 until the end of 2002, the hospital provided services to a total of 122,093 patients and performed 6,143 major surgeries and 541 minor surgeries.
Conclusions : It has been possible to conduct sight restorations of poor and blind individuals in this region at the Gaur eye hospital with the support of the NECP. J. Med. Invest. 51: 230-233, August, 2004

Keywords **:** *avoidable blindness, cataract, Nepal.*

INTRODUCTION

Cataracts are the major cause of blindness around the world, especially in developing countries. Of the 44.8 million blind individuals worldwide, it is estimated that 43% are the result of cataracts[1]. Nepal is a small land-locked developing country with an average length of 885 km from east to west and an average breadth of 193 km from north to south. The country has 75 districts and 14 zones, and a total population of 23 million.

Cataract blindness is widely recognized as a major problem in developing countries. In response, cataract control programs have been established on both local and national levels in a concerted effort to reduce the so called" backlog "of cataract blindness cases[2]. In 1981, a survey of Nepal blindness revealed that there were 0.8% bilateral and 1.66% unilateral blind individuals in the total population[3]. The major causes of blindness in Nepal include cataracts, trachoma, trauma, infection, glaucoma, xerophthalmia and retinal diseases. The survey also showed that 80% of this blindness was either curable or preventable (avoidable-blindness) if treated in time, and that 90% of these blindness resided in rural areas. Nepal has developed a comprehensive national network of eye hospitals but the surgical coverage for the treatment of cataract blindness is still low[4].

Received for publication May 31, 2004 ; accepted Jaly 1, 2004.

Address correspondence and reprint requests to Takeshi Naito, M.D., Ph.D., Dept of Ophthalmology and Visual Neuroscience, Institute of Health Biosciences, The Univ. of Tokushima Graduate School Kuramoto-cho, Tokushima 770-8503, Japan and Fax : 81-88-631-4848.

The Narayani zone, one of the 14 zones of Nepal, is situated in the southeast of the country and according to the survey findings it has the highest prevalence of cataract blindness compared to other zones. Of the five districts in this zone, Rautahat district was shown to be a cataract pocket zone. The reason for this might be connected to the high rate of illiteracy and poverty.

Approximately 80% of the elderly population in this district are illiterate, and even when transport and free surgery are offered, the acceptors of cataract surgery are low due to fear.

The infrastructure of the eye care services in this area are very poor and local populations cannot easily gain access to them, furthermore most cataract blind people perceive their blindness as coming from God. These individuals only access such services at the annual eye camp conducted by the Kedia Eye Hospital, which is supported by the Narayani Eye Care Project (NECP). Gaur is the headquarters of this district and is adjoined to the Indian boarder. The total population here is nearly 1.2 million and 80% are farmers. The purpose of this study is to analyze the progress of this eye care project.

METHOD

Rautahat district in the Narayani zone is believed to be a cataract pocket zone where the access to eye care services is very poor. Considering such facts, the Gaur Eye Hospital was established in mid 1997. At the beginning, the hospital operated on a small scale. However, the hospital has expanded to 36 beds and delivers services 6 days a week now. The hospital is run by the Nepal Netra Jyoti Sangh (NNJS) with full financial support from the NECP. The NECP is a joint-project funded by the Association for Ophthalmic Co-operation to Asia (AOCA) and 24 Hr TV Japan (24 HTV). Both are Japanese non-governmental organizations (NGO). Initially, the project was based in the Kedia Eye Hospital in Birganj and used to conduct eye camps annually at several areas in the Bara, Parsa and Rautahat districts. Each year the number of eye patients and surgeries in Gaur was found to be increasing. Thus the project established a well-equipped eye hospital in Gaur.

The hospital provides an outpatient department (OPD), and emergency and vision restoration surgery. The hospital has become very popular among Nepalese as well as Indian patients. This might be partly due to the annual visit of the Japanese ophthalmologists. Cataracts, one of the leading causes of curable blindness worldwide, are treated by a phaco machine or by extracapsular cataract extraction (ECCE) with intraocular lens implantations. If posterior segment diseases are found to be the cause of blindness, patients are referred to a higher center in Kathmandu. In this study, we analyzed the number of patients, the number of surgeries and the profile of patients.

RESULTS

From mid 1997 until the end of 2002 the hospital provided services to a total of 122,093 eye patients performing 6143 major and 541 miner surgeries (Table 1). An almost equal proportion of male and female patients received these services. But, in the aged patients older than 60 year-old, the number of male is larger than that of female. Since the hospital is situated very near to the India border, patients from India also visit the hospital, as the eye care services in the border regions of India are not sufficient. Therefore the hospital also provides services to Indian patients on terms of human grounds. The percentages of Indian and Nepalese patients are 66 and 34%, respectively (Table 2). Tables 1 and 2 show detailed information on the services rendered from mid 1997 to the end of 2002. The number

Table 1. Number of patients examined and surgeries performed from mid 1997-the end of 2002

Year	OPD	Major Surgery	Minor Surgery	Total
1997	4517	246	11	257
1998	14403	775	49	824
1999	18667	737	74	811
2000	21772	1052	104	1156
2001	27568	1511	143	1654
2002	35166	1822	160	1982
Total	122093	6143	541	6684

OPD=outpatient department

of patients increased year by year and changed according to the season, increasing in the winter and decreasing in the summer (Fig.1 and 2).

DISCUSSION AND CONCLUSION

There are approximately 90 eye doctors in Nepal but most live in big cities like Kathmandu, therefore, it

Table 1. Sex wise distribution of Nepalese and Indian Patients who received surgical facilities at Gaur Eye Hospital over a one year period (July 17th 2001 to June 16th 2002)

Age	No.of Patients	Male	Female	Indian National	Nepalese
0-10	6	3	3	4	2
11-20	8	7	1	5	3
21-30	31	15	16	18	13
31-40	158	73	85	104	54
41-50	400	178	222	260	140
51-60	729	356	373	486	243
61-70	296	177	119	192	104
71-80	102	59	43	66	36
81-90	60	40	20	40	20
Total	1790	908	882	1175	615

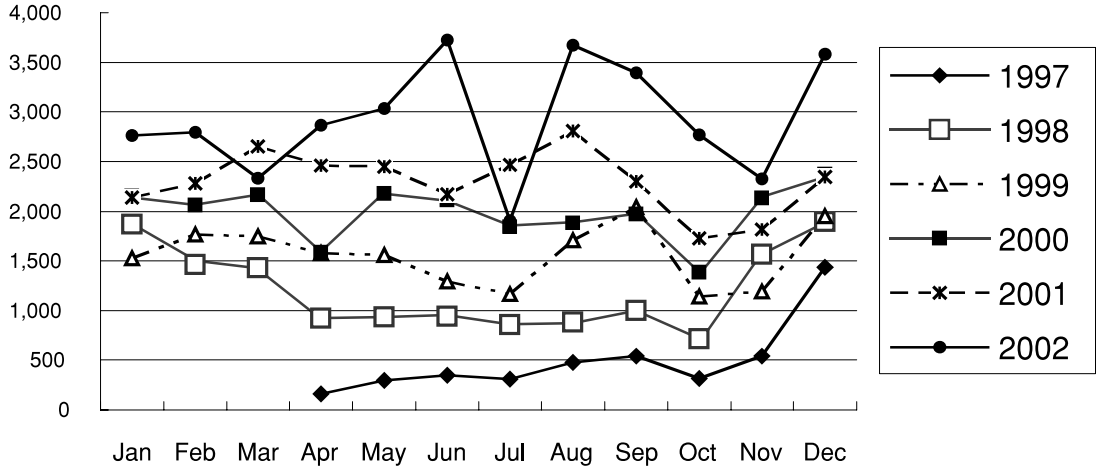

Fig 1. No.of Patients of OPD
The number of patients frequenting the hospital has been increasing year by year.

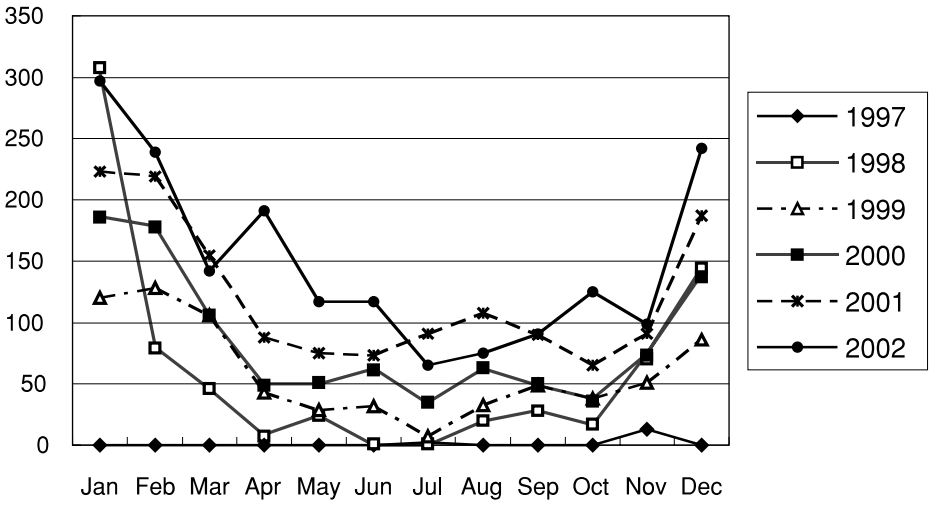

Fig 2. No.of Cataract Surgeries
The number of cataract surgeries during the winter season increases.

is very difficult for people living in remote areas to consult them. The majority of patients in these areas expect to be treated by mobile eye camps. The services provided in these eye camps are, however, limited and the quality of these services are insufficient. Gaur is located far away from any big city and had no eye doctors until the establishment of the Gaur Eye Hospital. Most patients in this area used to be treated in eye camps only.

Nepal already launched the WHO Slogan" Vision 2020 : The Right to Sight "in November 1999 and followed the strategic plan of action developed by the Eye Care Apex body of the Ministry of Health. The Gaur Eye Hospital has a lot to do before it can treat the backlog of cataracts and provide such patients with the services they need.

After having received permanent eye care services for nearly seven years in the Rautahat district, people are becoming more and more aware of what is available to them at the Gaur Eye Hospital. The number of patients frequenting the hospital has been increasing year by year. The main reasons behind this are the constant and regular delivery of eye care services plus the installation of modern equipments and instruments such as a phacomachine and other instruments that allow the prompt diagnosis and treatment of eye diseases. The more people become aware of their eye health, the more they learn that cataract associated blindness can be cured by surgery at a low cost and within ten minutes. The frequent visits of Japanese ophthalmologists who provide high-tech services for the poor and blind individuals in this area have also contributed to this increase of patients.

However, the number of patients attending the OPD increases or decreases depending on the season. The number of patients visiting the OPD and surgeries during the winter season from September to April increases. But during the summer there are decreasing numbers of patients. In Nepal, the monsoon often starts in May and ends in August. During this period, numbers decrease because it is the farming season and most people are engaged in their fields. In the summer, it is very hot and humid in Gaur, while in the rainy season many parts of Gaur are affected by floods making it difficult for patients to visit the hospital. Thus, the number of patients who attend the hospital during the summer decreases.

The proportion of male and female patients was almost equal. But, in the aged patients older than 60 year-old, the number of male was larger than that of female. It was supposed to be reflected the results of the census in 2001 or due to predominance of men over women[4].

The eye hospital is located at the corner of the district headquarters and has not yet been able to reach some people with eye problems. Therefore, the hospital needs to strengthen its outreach activities to these remote areas so that cataract blindness and other diseases of the eye can be timely detected, and treatment and sight restoring surgeries can be provided to them in the hospital. It is also equally important to update the knowledge of the doctors and technical staffs with regards to eye care thus allowing delivery of the best services within the region. In conclusion it can be said that the sight restoration of poor and blind people in Gaur has been possible with the support provided by the AOCA and 24 HTV under the NECP. The Gaur Eye Hospital needs continuous support so that it can eventually become self-sufficient and provide services that allow a clearup of the cataract backlog and expansion of the eye care services within the district. On completion of the above, the Gaur Eye Hosiptal will achieve the objectives of" Vision 2020 : The Right to Sight "in Nepal.

REFERENCES

1. Shrestha JK, Pradhan YM, Snellingen T : Outcomes of extracapsular surgery in eye camps of eastern Nepal. Br J Ophthalmol 85 : 648-652, 2001
2. Pokhrel GP, Selvaraj S, Ellwein LB:Visual functioning and quality of life outcomes among cataract operated and unoperated blind population in Nepal. Br J Ophthalmol 82 : 606-610, 1998
3. Brilliant LB, Pokhrel RP, Grasset NC, Lepkowski JM, Kolstad A, Hawks W, Pararajasegaram R, Brilliant GE, Gilbert S, Shrestha SR, Kuo J:Epidemiology of blindness in Nepal. Bull World Health Organ 63 : 375-386, 1985
4. Snellingen T, Shrestha BR, Gharti MP, Shrestha JK, Upadhyay MP, Pokhrel RP : Socioeconomic barriers to cataract surgery in Nepal : the south Asian cataract management study. Br J Ophthalmol 82 : 1424-1428, 1998