

## Efficacy of small incision cataract surgery in community based eye camps: a report from Sindupalchowk, Nepal

Gautam P<sup>1</sup>, Dhungel P<sup>1</sup>, Adhikari HB<sup>1</sup>, Dhungel S<sup>2</sup>

<sup>1</sup>Department of Ophthalmology, BP Koirala Lions Centre for Ophthalmic Studies, IOM, Teaching Hospital, Maharajgunj, Kathmandu, Nepal

<sup>2</sup>University of Southern Denmark

**Correspondence:** Pragati Gautam

**Email:** pragatigautam@hotmail.com

### Abstract

**Introduction:** Health camp provides service to patients, near to their home, living in remote places with inadequate health facilities, like remote places of Nepal. This study was carried to assess the visual outcomes and complications associated with cataract surgery in camp patients, operated in a camp setting at community level in Sindupalchowk.

**Methods:** In a retrospective study, 23 outreach camp patients had undergone cataract surgeries with chamber intraocular lens implantation under peri-bulbar anaesthesia. Post-operative complications on day-1 were examined. Patients with any complications were managed conservatively and referred for further management to tertiary eye care centre.

**Results:** 23 eyes underwent cataract extraction with intra ocular lens implantation. Small incision cataract surgery (SICS) was the commonest method (91.6%) used. 69.57% were female and 30.43% were male. The commonest first post-operative day complication was mild conjunctival congestion and sub-conjunctival haemorrhage. On Day-1 of post-operative Normal to Near-normal vision (6/6-6/18) was seen in 14(60.82), Moderate low vision 6/24 to 6/36 in 5 (21.74%), Severe low vision 6/60-3/60 in 3(13.04%), and Moderate blindness <3/60 in 1(4.35%) of the operated patients.

**Conclusion:** High quality cataract surgery with low rate of intraoperative complications and good visual outcome can be obtained in camp patients operated in community level under skilled manpower suggesting more similar surgical camps to reduce the burden of preventable blindness due to cataract.

**Keywords:** community eye camp, cataract surgery, visual outcomes

### Introduction

Nepal is a landlocked country with inadequate basic infrastructure of development like transportation, health, education and electricity. Sindupalchowk district with an area of 2,542 square kilometres, lies in Bagmati zone but is far behind in aspects of development of health facilities. Tribhuvan University teaching Hospital equipped with skilled manpower had organized this combined general health camp. Experts of gynaecology and obstetrics, surgery, ENT, orthopaedics, dermatology, general physician and ophthalmology had gone for combined health camp in collaboration with the primary health centre, local clubs of Jalbire village development committee.

Though no district specific data is available for that particular districts per the world health organization (WHO) study in 1985, the main cause of blindness in Nepal is due to cataract with an estimated 62.2% (52.8% in blind eyes) for Nepal. The main cause of bilateral severe visual impairment and blindness. Presenting Visual Acuity(PVA) <6/60 in the better eye is due to cataract with an estimated 67.7%, higher than in blindness alone.<sup>1</sup> Using a cut off of PVA of <3/60 close to 130,000 Nepalese are blind in one or both eyes due to cataract which increases almost 2 times to nearly 280,000 with <6/60 as cut off visual acuity<sup>2</sup> WHO recommends <3/60 as a criteria for blindness, it is now generally agreed that at this level of vision most

people are not economically active, though they are able to move around with some degree of independence. With the presence of good number of eye hospitals distributed throughout the country, cataract is still the most important cause of blindness in Nepal<sup>3</sup>.

## Methods

This retrospective study was conducted at Primary Health Centre (PHC) of Sindupalchowk district of Nepal in the month of April 2014 in a single community based combined health camp. 44 patients having PVA <3/60 were screened at community based combined camp for cataract surgery and examination for blood sugar level, blood pressure and total blood count were performed on the same day. Patients were asked to follow up for cataract surgery after 2 days.

The inclusion criteria were senile or acquired cataract. The best corrected visual acuity (BCVA) was measured using the Snellen's E- chart. If the visual acuity could not be measured, we checked the following, counting fingers, hand movements and light perception respectively. The operating theatre was set up by the technical staffs, inside PHC after sterilization. Peri-bulbar injection of (2% lignocaine containing adrenaline and 0.5% bupivacaine + hyaluronidase) was given prior to the surgery and for the 1st post-operative examination the patients were kept in the PHC for one night and examined on the morning with hand held slit lamp. Patients were prescribed with Dexamethasone and Chloramphenicol combination eye drops for the duration of one month. The patients were counselled about the alarming symptoms and asked to follow up in the hospital for successive post- operative days. Informed content was taken for the study. Necessary data were analysed by using MS EXCEL.

## Results

In total there were 1238 patients who were screened for eye health only in the combined camp of 6 days. Out of them 44 patients were asked to follow up for cataract surgery (with the criteria of PVA<3/60) which was absolutely cost free but only 23 patients came for surgery due to the topographical difficulties and self-decision that they were not in the need of surgery. 23 eyes underwent cataract extraction with intraocular lens implantation done by a single ophthalmologist. The mean age of the patients was  $72.08 \pm 8.81$  years and 69.57% (16) were female and 30.43 % (7) were male. Manual Small incision cataract surgery (SICS) was the commonest method in 21(91.3%) used and in rest 2 (8.7%) conventional extra-capsular cataract extraction (ECCE) done. Only 1 (4.35%) case had intra-operative complication of posterior capsule rupture and anterior chamber intraocular lens was implanted. The visual acuity categorization based World Health Organisation's internationally accepted classification of visual performance has been adapted<sup>4</sup>. And on Day-1 of post-operative was Normal to Near-normal vision (6/6-6/18) in 14(60.82), Moderate low vision 6/24 to 6/36 in 5 (21.74%), Severe low vision 6/60-3/60 in 3(13.04%), and Moderate blindness <3/60 in 1(4.35%) of the patients.

Here, the patients were followed-up on day 1, in the camp and were examined with hand held slit lamp and on 1 week and 6 weeks to the PHC in collaboration with the local clubs as many of these patient had undergone medical consultation and other minor surgical procedures as well in combined health camp setting. 85% (19) of the patients followed up for 1st week examination and 54 % ( 12) followed up for 6 weeks examination

**Table 1 Eye care services provided in camp in brief**

Category	Number
Total number screened	1238
Total number of cataract diagnosed( with PVA < 3/60)	44
Numbers of patient operated	23 ( Male -7,female -16)
SICS	21
Conventional ECCE	2

**Table 2 Distribution of operated patient in First post-operated day based on visual Acuity**

Vision	6/6-6/18	6/24-6/36	6/60-3/60	<3/60
Number of Patients	14	5	3	1

## Discussion

Though small in number, this case series was undertaken with the principle aim to find out the visual outcome after cataract surgery in community level camps- indirectly pointing to the efficiency of such camps.

A study conducted by Sushant et al<sup>5</sup> where they compared community based verses hospital based cataract surgery delivery, found that both were effective for cataract coverage in remote and resource limited areas of Nepal. Here, the patients were followed-up on day 1, in the camp and were examined with hand held slit lamp and on 1 week and 6 weeks to the PHC in collaboration with the local clubs as many of these patient had undergone medical, gynecological, ENT consultation and other minor surgical procedure as well in combined health camp setting. 85% (19) of the patients followed up for 1<sup>st</sup> week examination and 54 % (12) followed up for 6 weeks examination. This could be because of topographical difficulties, cost as well as self-decision. Similar studies conducted by Sudhakar et al.<sup>6</sup> in 1989 reported a visual acuity of 6/12 or better in 80.7%. Ravindra et al.<sup>7</sup> in 1996 reported a BCVA of 6/18 or better in 80.7%. Sanjay et al.<sup>8</sup> found that on the first post-operative day only 7.3% of the patients had presenting vision worse than 3/60 and 40% of the patients had vision equal to or better than 6/18. Cataract coverage is low in rural setting.

As per gender, female were more in this study which is almost similar to other community based studies either in outreach camp setting or in hospital based cataract surgery in Nepal<sup>9,10</sup>. This may be due to gender gap in cataract coverage, that too in developing countries like Nepal. The females seems neglected and had to wait for such community based services which is well demonstrated in a research by Susan Lewallen & Paul Courtright<sup>11</sup>. However a study done by T Snellingen et al<sup>12</sup> pointed out that low acceptance of surgery may be a factor for severe vision loss due to cataract in females.

## Conclusion

In this community camp, it has been seen that equipped with skilled man power and good setting, a large number of people especially female patients got benefitted with cataract surgery in community level saving the time and money of economically backward people. Studies from other large camps are needed for further for making this statement a general statement. Such camps should be supported by the organizations working for prevention of blindness in the world to eradicate the bulk of blindness due to cataract in days to come.

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