

Cataract intervention surgery: a community approach

***R.E. UMEH, ONWASIGWE E.N., OZOH G.A., ONWASIGWE C.N., OKOYE O.I., UMEH O.C.**

From: Dept. of Ophthalmology, College of Medicine, University of Nigeria, Enugu Campus, Enugu.

SUMMARY

We present a report of an on-going British Council Prevention of Blindness - sponsored Cataract Surgical Outreach in Inyi - a rural community in Oji River Local Government Area of Enugu State, Nigeria. The importance of Community Women's group in the mobilization of patients and the community is documented. The eye care providers from the University of Nigeria Teaching Hospital, Enugu, which carried out the study, consisted of consultant Ophthalmologists, ophthalmic resident doctors, nurses and auxiliary staff. Of the 35 patients recruited over a two-month period, 17 males and 18 females, with age range from 51-80 years, mean age 57.8 years. Most patients (88.6%) had age-related cataract. All 35 patients had intra-capsular cataract extraction using a cryoprobe, under local anaesthesia. Three patients (8.6%) had post-operative complications, which are, residual soft lens matter, uveal prolapsed and up-drawn pupil. There was no case of post-operative infection. Rehabilitation was done with spectacles. The benefits of successful cataract operation and restoration of adequate vision as an effective motivator in overcoming patient's reluctance and socio-cultural barriers for surgery is highlighted.

KEY WORDS: *Primary eye care, cataract backlog, cataract surgical outreach, community women's group and motivators.*

INTRODUCTION

Primary Eye Care (PEC) is a broad concept, encompassing the prevention of potentially blinding eye diseases through Primary Health Care (PHC)¹. The study reported in this paper is a community-based programme which utilizes some elements of Primary Eye Care which are - community participation, identification with treatment or referral of individuals with treatable causes of blindness with colossal socio-economic consequences. It is also recorded world wide as having an estimated backlog of 16 to 20 million un-operated cases with increasing public health implication².

Development of cataract is not only genetically determined but also has to do with nutritional status and environmental influences. Consequently, ninety percent of the blind people in the world live in developing countries³. Majority of these people who are blind from cataract live within the rural community. In order to achieve effective reduction of the cataract backlog, cataract surgery has to be carried out very close to or within the people's rural setting.

This study resulted from a community-based

World Health Organization-sponsored project on Onchocerciasis and its treatment with ivermectin. The project was carried out in Inyi, Oji River Local Government Area in Enugu State. This community is endemic for Onchocerciasis infection. In the course of eye examinations on the individuals, a considerable number were found to have cataract, with some already blind in both eyes. Due to poverty and lack of knowledge about their condition they were resigned to their fate with consequent socio-economic drawbacks. The challenging question to the team became "what could be done for these people?". A system of screening, identification and referral by appropriately trained members of the community - "bad eye finders (BEFs) and bad skin finders (BSFs)" was established. Surgical intervention was planned and executed as an answer to the cataract problem. The outcome of the first two months of the intervention is reported here.

PATIENTS AND METHODS

Prior to intervention, meetings were held with the leaders and members of the community during which the purpose of the programme was explained. The community-based Women's Organization was

**Address for Correspondence*

identified as a strong body through which this programme can be carried out. A meeting was held with them and they nominated community members to serve as “bad eye and skin finders”.

The study started with one month of training for the BEFs and BSFs. These were male and female members of the community nominated by the Women’s Group on the basis of two people from the already demarcated wards. They were trained on basic eye examination using Snellen’s E-charts placed at six metres and a Jones’s pen torch, which incorporates a light source with a magnifying lens. They were taught using a format to record eye findings starting from the lids through to the anterior segment including checking for red reflex. They were also trained on examination of the skin since it was an onchocerciasis endemic area.

All the houses within each ward in the community were numbered. Mobilization of the community was carried out through announcements in churches, market places and schools. In order to encourage all the blind people to attend for assessment and necessary treatment, the leaders of the Women’s Group and the “bad eye finders” helped to mobilise the members of the community. The trained community members, the bad eye finders (BEFs) and the “bad skin finders” (BSFs) went from house to house in the villages and examined the eyes and skin of all individuals in each household. People identified by them (BEFs and BSFs) with “bad eyes” or “bad skin” were referred to the Ophthalmologists or Dermatologists in the team of eye care providers for review, and confirmatory diagnosis and necessary treatment on Outreach days. Those with operable cataract had surgery performed on them under local anaesthesia, as day cases.

Intracapsular cataract extraction with the cryoprobe was carried out in all patients aged 40 years and above.

Post-operative drugs were given free of charge after the operations and the relations of the patients were taught how to instill the drops and the frequency of doing this. Patients were advised to buy their own drops if they ran out of supply. To ensure that they did, they were asked to show the drops to the nurse or doctor in the team for proper instructions.

A nurse or resident doctor saw patients the next day for first post-operative eye examination and dressing. Follow-up examinations were done each week the team visited the village for the first six weeks. Subsequent follow-up examinations were by appointment. Aphakic corrections (+ 10 diopter lens)

where necessary, were usually given to the patients.

The exercise was carried out twice a week at the Community Health Centre in the community. The building was made available to the team by the Local Government Chairman. Three abandoned rooms in this building was refurbished from the project funds for this purpose.

Team Composition

The team of eye care providers based at the University of Nigeria Teaching Hospital, Enugu comprised of two consultant ophthalmic surgeons, three ophthalmic resident doctors, a consultant dermatologist and a community health physician. Other members of the team included a nursing sister, two auxiliary staff and a record clerk.

Ethical Clearance

Ethical clearance for the study was obtained from the ethical committee of the University of Nigeria Teaching Hospital, Enugu.

Informed Consent

The procedure was clearly explained to each patient by the Ophthalmologist in their local language.

Each patient signed or thumb-printed a written consent before each surgery.

RESULT

Table 1 shows the number of patients and types of cataract diagnosed. Eight of them (23.0%) had cataract in both eyes, 26 (74.3%) had unilateral cataract with poor vision in the fellow eye, while one patient was blind from cataract in his only eye. Surgery was performed on all 35 patients (43 eyes).

Table 1

Type of Cataract	No.	%
Bilateral Cataract	8	22.9
Unilateral cataract	26	74.3
Only eye	1	2.8
Total	35	100

Table 2 shows the profile of the 35 patients who had cataract surgery. Two persons both males were aged 40 years. Majority were aged between 51 and 80 years with a mean age of 57.8 years.

A total of three patients developed post-operative complications. The details of these are shown in table

Table 2: Age and Sex Distribution of the 35 patients who had cataract extraction

Age group (years)	Male	Female	No.	%
40	2	0	2	5.7
41-50	3	0	3	8.6
51-60	5	3	8	22.9
61-70	5	10	15	42.9
71-80	2	4	6	17.1
81-90	0	1	1	2.8
Total	17	18	35	100.0

3. The patient with up-drawn pupil had vitreous loss intra operatively. Wound site was cleaned with cotton swans soaked in normal saline solution. A broad iridectomy and sphincterotomy at the six o'clock position was performed. One patient has a remnant of soft lens matter (SLM). This was noticed two days after the surgery and washed out during the next surgery session – a week later.

Table 3: Types of Complications seen in 35 patients

Complication	No.	%
Soft Lens Matter	1	2.3
Uveal Prolapse	1	2.3
Up-Drawn Pupil	1	2.3
Total	3	6.9

DISCUSSION

Primary eye care is the essential building block for the prevention and management of blindness in all communities and in all regions of the world¹. Without primary eye care only those individuals who present to tertiary facilities will be diagnosed and treated and little will be achieved in terms of prevention. The problem of cataract backlog worldwide particularly in the developing countries seems to be worse in the rural population and affects the older people. A WHO study⁴ indicated that age-related cataracts accounts for 80% of cases. The finding in our study agrees with this as it was shown that 88% of cataracts were seen mostly in people aged 50 and above.

Most of these patients live in the rural areas thus, fending for themselves or their families become a burden. As conditions of living improve relatively and

people live longer the cataract backlog gets even larger. Therefore there is the need to plan an effective community-based cataract surgical service programme as part of the National Programme for the Prevention of Blindness. This should be planned to be a continuous process to handle the increasing incidence of cataract blindness. The service should be an integral part of Primary Health Care service for effective impact and proper management of cataract-related blindness. It must essentially be applied at the community level where the bulk of the problem is. The activities largely rely on community involvement for case finding and referral⁵.

Our study illustrates the components of cataract service as already noted in some studies^{3,6}. These include:

- modalities for identification of patients
- awareness creation and mobilization
- development of an effective and accurate referral system
- selection of patients for surgery
- affordable, acceptable and accessible high quality surgical services on a mass scale
- rehabilitation of aphakics
- patients' education and monitoring.

The house to house identification of patients in this programme was quite systematic and useful in ensuring that everybody within the community benefited from the programme. This is because trained community members who were able to recognize the absence of some family members and had to make out time for re-visiting them, did so. Involvement of the community members helped break the socio-cultural barriers inhibiting the interest of the populace. Carefully executed cataract operation with restoration of reasonable vision serves as a good motivator and effective advertisement for people otherwise afraid of operation. In this study the restoration of sight to people, in particular an old lady and the one eyed man, who had been blind for a long time and abandoned by their relatives, gave impetus to the programme, without doubt the general community response became impressive. In most surveys, aphakics are known motivators; (2, 3 & 5) but it was observed that initially, totally blind aphakics help a lot in creation of awareness in the community. Other motivators include free surgical treatment and post-operative drugs including eye drops. The community on the other hand support and participate in the programme by cleaning the surrounds of the health centre and supplying water as the need arose.

None of the patients had post-operative infection during the follow-up period.

Some of the draw-backs encountered in the community which is not unexpected, include:

- such beliefs that blindness is part of aging and therefore requires no remedy,
- socio-cultural barriers that blindness occurring early in life is caused by witchcraft.
- Co-opting community volunteers without remuneration results in the abdication of duties. In our studies it was difficult to retain such persons without some benefits,
- In fact some of the bad eye finders extorted money from the patients during field work before referring them to the Ophthalmologist. The women's group was therefore requested to monitor and report such activities for disciplinary action. This measure and the fact that they were given a token remuneration checked this problem.

Community support also depends on community acceptability. Initially, the eye care providers were seen as mercenaries with unclear objectives. It was therefore necessary to integrate them with people. The team related with them in some of their community activities such as burials, other socio-cultural activities, shared in their types of foods, bought from their markets and also attended to some other problems of the community. It is however necessary to avoid their political problems as this would mar the programme.

In summary, the solution for tackling cataract backlog for now and for the future lies in a community approach. Cataract is increasingly constituting a public health problem as a result of increasing life expectancy, which leads to a higher percentage of the aged in the society. 'There is therefore need for a

concerted effort by the government, non-governmental organizations, voluntary associations and bodies in combating the problem. There is also need to strengthen eye care under the umbrella of the Primary Health Care system. Such a multi-disciplinary approach will take care of each community's medical and social problems.

ACKNOWLEDGEMENT

This programme is generously supported by the British Council for the Prevention of Blindness. We are greatly indebted to Prof. B.R. Jones for his assistance. We also thank the Inyi Community Women's Organization and the community members for their active participation.

REFERENCES

1. Gilbert C. The importance of primary eye care. *Community Eye Health*, 1998; **26**: 17-19.
2. Thylefors B. A global initiative for elimination of avoidable blindness. *Community Eye Health*, 1998; **25**: 1-2.
3. World Health Organization. Management of cataract in primary health care services. WHO, Geneva, 1996.
4. West SK. Cataract: a challenge for public health ophthalmology. *Community Eye Health*, 1992; **9**:1-2.
5. Konyama K. Essential components of primary eye care. *Community Eye Health*, 1998; **26**: 19-21.
6. Natchiar G, Robin AL, Thulasiraj RD, Krishnaswamy S. Attacking the backlog of India's curable blind. *Arch Ophthalmol*, 1994; **112**: 987-993.