

IMPORTANCE OF MEDICAL AUDIT IN A COMMUNITY OPHTHALMIC OUTREACH PROGRAMShubhangi Prashant Sathe¹, Sharmil S. K²**HOW TO CITE THIS ARTICLE:**

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ABSTRACT: Outreach delivery of health care is an important part of Community ophthalmology, especially for Cataract patients. Quality assurance in such programmes, which guarantees every patient of best possible outcomes and fewest possible complications in such programmes of key importance. **OBJECTIVES:** To study the importance of medical audit in assessing & assuring the quality of surgical services provided to the patients in community ophthalmic outreach programmes. **STUDY DESIGN:** Cross Sectional Study. **SETTING:** Tertiary Level Eye Hospital and Locations of Outreach Camps. **DURATION OF STUDY:** 1 year, April 2010 to March 2011. **METHODS & MATERIAL:** Patients who had no ocular problems other than cataract & had undergone Cataract surgery as part of Outreach programmes, in 2 months – 1 year postoperative period, were selected at random. Interviewed & examined with Snellen's chart, Hand held Slit Lamp & Direct Ophthalmoscope to assess results of cataract surgery including complications. The data thus obtained was statistically analyzed for assessing the quality & effectiveness of community ophthalmic outreach programmes. **RESULTS:** Of the 1014 patients surveyed 59% were females. 31.5 % Patients got both eyes operated. Thus total 1334 eyes surveyed. 88% of surgeries in the given year have resulted in Good Vision as per WHO Standards. 11% & 2% surgeries resulted in intermediate and poor vision respectively. Only 2% of patients had to be brought to the hospital for further management. Most commonly encountered undesired effect was watering, noted in 2.7% patients followed by itching, redness, mostly in the early postoperative period. Most patients were satisfied about the services they obtained. **CONCLUSION:** Medical Audit is the mainstay in assessing & assuring the quality of community ophthalmic outreach programmes, which in turn maintain a public trust in the programme. It also helps in building a long term patient contact & finding out areas and groups where outreach programmes can be extended to fetch more patients. **KEYWORDS:** Medical Audit, Community Ophthalmology, Quality, Cataract Surgery, Outreach programmes. **MESH TERMS:** Medical Audit, Community Health Services.

INTRODUCTION: Cataract is the most common cause of preventable blindness in the world. In India, most of the cataract patients undergo surgery through outreach programmes for the same, conducted by various trust & charity hospitals with Government aid. Such outreach programmes which deliver health care are the mainstay of Community Ophthalmology. As in any other health care system, quality assurance is a key factor in such programmes.

It ensures delivery of best possible outcome with least possible complications to all patients. Medical audit is the most important factor of quality assurance in Hospital systems. To the best of our knowledge, a Medical Audit was never conducted before in India for quality assurance in Community Ophthalmology outreach programmes, and no literature is available in this regard. There are plenty

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of such outreach programmes in India, but none makes use of Medical Audit as a tool for quality assurance. The aim of this article is to study & demonstrate the potential importance of Medical audit in assessing & assuring the quality of surgical services provided to the patients in community ophthalmic outreach programmes by conducting a medical audit in such an outreach programme by a tertiary eye hospital in Nashik. We hope to shed some light in the usefulness of Medical Audit in such programmes by creating a model, keeping in mind that the ultimate benefactor of such an audit is the patient.

METHODS: The medical audit was conducted in field by the Author with the help of an optometrist & Medic-Social Worker. From the list of all cataract patients without any other ocular co-morbidities operated via outreach programmes by the hospital, the auditor selected random patients from random areas. The selected patients were assembled at a pre-determined location with help of an MSW. Per audit, 40-45 patients were seen, and audits were done on a fortnightly basis. In such a manner 1014 patients were seen by the auditor during the period of study, ie. 1 year from April 2010 to March 2011. The patients were mostly in the middle age to elderly age group, the age group with most incidence of cataract. No sex predilection was there. All the patients were in 2 months to 1 year postoperative period after Small Incision Cataract Surgery with Posterior Chamber Intraocular Lens implantation.

The standards set by the audit were to have:

1. Percentage of cases with postoperative BCVA falling in the category- Normal vision (BCVA \leq 6/6, \geq 6/18) as per WHO ICD-10 - >95%.
2. Occurrence of complications & undesired side effects- total <5%.
3. Percentage of patients needed to be taken to the hospital for further management- <2%.

The patients were interviewed based on a questionnaire by the auditor. The questionnaire was based on questions to ascertain:

1. Demographic data:
Name, age, sex, Village, Taluka, District, Address & Occupation
2. Details regarding the surgery:
Date of surgery, dates of admission & discharge
Type of surgery, whether done in one eye, or both
Complications, whether needed to be taken to hospital for their management
3. Patient Complaints:
Before & after surgery and current complaints.

Details regarding the surgery was mainly obtained from hospital medical records prior to the patient interview. The interview was followed by examination by the auditor with the help of optometrist using

- Snellen's chart & Hand held Auto Re-fractometer- For checking best corrected visual acuity (BCVA) in the operated eye
- Hand held Slit Lamp - To examine anterior segment of the operated eye
- Direct Ophthalmoscope - To evaluate fundus details of the operated eye

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The data from interview and examination was appropriately recorded. This data was used to statistically analyze the outcomes of Cataract surgeries done via outreach programmes. The variables calculated were total number of patients seen by the auditor, total number of operated eyes seen by auditor, number of patients with one or both eyes operated, number of surgeries with postoperative BCVA in each of the WHO Visual impairment categories, number of cases with each of the undesired effects, number of cases needed to be taken to the hospital following surgery for further management of complications as absolute values and percentage of cases wherever applicable.

The results of analysis were compared with the standards set by the audit and thus used to study the quality of outcomes of surgeries done through the outreach programmes, and to identify possible areas of improvement.

All the methods followed were in accordance with the standards of the ethical committee of the Institution, and with the Helsinki Declaration of 1975.

RESULTS:

1	Total number of patients seen by the auditor		1014	100%
2	Sex distribution	Males	412	41%
		Females	602	59%
3	Total number of operated eyes examined by the author (Total number of cases seen by the auditor)		1334	100%
4	Number of patients with one eye operated		694	68%
5	Number of patients with both eyes operated		320	31%
6	Number of cases with postoperative visual acuity (BCVA) falling in	Normal vision (BCVA \leq 6/6, \geq 6/18)*	1174	88%
		Moderate visual impairment (BCVA $<$ 6/18, \geq 6/60)*	147	11%
		Severe Visual impairment (BCVA $<$ 6/60, \geq 3/60)*	13	1%
		Blindness (BCVA $<$ 3/60)*	0	0%
7	Number of cases with undesired side effects †		36	2.7%
8	Number of cases needed to be taken to the hospital for further management due to complications (LASER treatment, Secondary IOL implantation, Refraction)		26	2%

Table 1: Consolidated results of the audit

* as per WHO ICD-10 (2), shown in Figure 1.

† Breakdown of numbers & percentages for each of the side effects is given in Table.2 in

To summarize:

1. Only 31% patients got both eyes operated.
2. The audit has shown that 88% of the patients got good vision after surgery, which can be considered as the success rate of the programme. In this case, the success rate is lower than the standard set by the audit, which means there is room for improvement.
3. No cases resulted in blindness.
4. Also it may be noted that cases with undesired side effects are 4.5% (adding the percentages for individual undesired side effects), meeting the standard set by the audit. And percentage of cases with complications that needed to be taken to hospital for further management is 2% which also met the standards set by the audit.

DISCUSSION: Medical audit shows the success rate of ophthalmic outreach programme for cataract surgeries in terms of percentage of patients who got normal vision after surgery as per WHO ICD-10. It can be the target of such programmes to keep on increasing the percentage, and thus the quality as subsequent audits set higher standards. Medical audit has shown the percentage of cases with undesirable side effects, though not a direct measure of success rate of cataract surgeries done as part of the ophthalmic outreach programmes, this can be looked upon as a number to be reduced in order to reduce the social stigma which is still prevalent in areas where most of such programmes are conducted.

Another important value given by the audit, which has to be kept to minimum is the percentage of cases needed to be taken to the hospital for further management of complications, especially in view of efficiency of such programmes which has an important role in determining the quality of such a programme, more so in a scenario where most of these programmes runs without charging the patient. The audit also gives information regarding the number of cases that can be fetched without much difficulty from the same group/area, given by the number of patients with only one eye operated, provided that the first surgery they got culminated in good results, which increases the willingness to undergo surgery for the other eye also if needed, through the same programme.

In summary, medical audit is a part of modernization which can significantly improve the outcome of cataract surgery¹, and thus the success rate & quality of community ophthalmology outreach programmes, the core of which is constituted by cataract surgeries.

One important problem this study did not address is ocular and non-ocular co-morbidities which affects the success of surgery viz Diabetes, Hypertension, Glaucoma, Retinal diseases. For the patients with such co-morbidities, usually guarded prognosis is considered because the highest possible outcome will be limited by those comorbidities. For such cases postoperative visual acuity in the category of low vision even may need to be considered as a moderate success. In those special scenarios the audit should set different standards, which are realistic and considering the average outcome in those scenarios.

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2. ICD-10 Version: 2010 [Internet] 1992 [Updated 2011 October]. Available from: <http://apps.who.int/classifications/icd10/browse/2010/en#/H53-H54>.

Watering	36	2.7%
Red eye	12	0.9%
Itching	10	0.75%
Pain	2	0.15%

Table 2: Cases with undesired side effects, as absolute numbers and percentage of total number of cases seen.

Figure 1: Proportion of cases with postoperative visual acuity (BCVA) in each of ICD-10 Visual impairment categories.

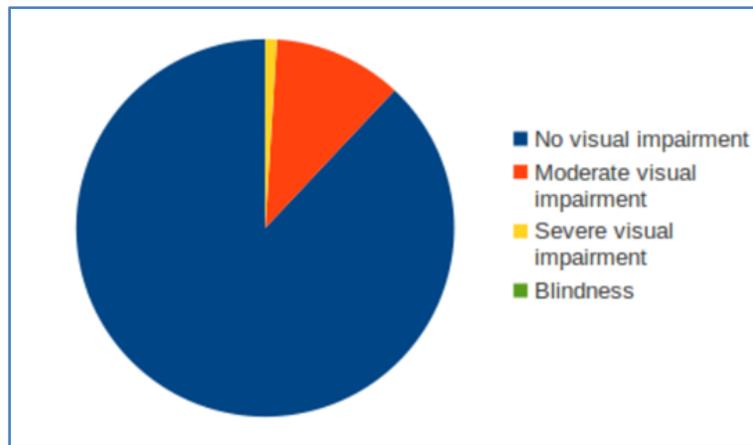


Figure 1

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