Cataract surgery output and cost of hospitalization for cataract surgery in the University of Benin Teaching Hospital

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Summary

Cataract is the most common cause of curable blindness in Nigeria[1,2]. Nigeria has an overall population of approximately 110 million with a blindness prevalence rate of 1%. Cataract is responsible for 30 – 60% of the blindness[1,2]. A great deal of blindness prevention activity should therefore centre around cataract surgery if we are to clear out cataract back log of over ½ a million individuals. Only 106 cataract surgeries were performed in the 24 months reviewed. There were 75 males and 31 females. This study highlights the meagre contribution of teaching hospitals to the prevention of blindness. Several factors including ignorance, poverty, socio-economic and political tensions and teaching hospital bureaucracy are no doubt responsible for this. Hospitalization for cataract surgery is becoming very unpopular in the developed world as this tends to increase cost of surgery. The need to establish cataract surgery outreach services and adopt day case surgical procedures in our hospitals cannot be over emphasized as strategies for clearing our national cataract backlog.

Keywords: ***Cataract surgery, Output, Cost, Hospitalization.***

Résumé

La cataracte avait la fréquence la plus élevée comme la cause de la cécité guérissable au Nigéria[1,2]. Approximativement, le total de la population nigériane est 110 million et le taux de la fréquence de la cécité est 1%. La cataracte est la cause principale de 30 à 60% cas des cécité[1,2]. Si nous devons réussir à éliminer les arrièrs problèmes des cataractes de plus de ½ million cas, nos efforts sur la chirurgie de cataracte devraient porter principalement sur des programmes visant sur des mesures préventives contre les incidences de la cécité. 106 cas des chirurgies cataractes avaient été opérées durant la période de 24 mois de cette étude. Il y avait en total 75 mâles et 31 femmes. Cette étude met en relief le maigre effort par rapport à la contribution des centre hospitaliers universitaires à l'égard de mesures préventives contre l'inciedence de la cécité. Des problèmes tels que l'ignorance, la poavreté, des problèmes relatifs à l'économique sociale, problèmes politiques et à la bureaucracie au sien des centres hospitaliers universitaires sont sans doute responsables.

Hospitalisation des malades pour la chirurgie de la cataracte devient de plus en plus mal accenillie dans les pays développés du monde parceque cette opération est coûteuse. On a besoin de mettre en place les services chirurgicals des cataractes à la population rurale et instaurer le processus d'un dossier médical journalier pour la chirurgie dans tous les hôpitaux comme stratégie afin de resoudre le problème national portant sur les arrieres des cataractes.

Introduction

Cataract implies opacification of the crystalline lens and it is the leading cause of blindness in Nigeria[1,2]. Fortunately blindness from cataract is reversible through surgery. Generally, the cataract surgical rate (CSR) i.e. the number of cataract operations performed per million population per year is very low, being less than 5000 in most African countries[3].

Cost efficiency of health care has assumed increased importance world wide. Cataract surgery with or without intraocular lens implantation is the most frequently performed operation in Ophthalmology and it may be performed in different ways and at different costs. A large part of the cost of cataract surgery is related to the length of in-patient stay which has been steadily decreasing world wide in recent years[4]. Day case cataract surgery has become very popular over the years and has been shown to be safe and popular with patients. Cataract surgery is one of the operations recommended for day case by the audit commission[5,6].

Patients and methods

Information on the total number of Ophthalmic surgeries performed over a 2 year period 1997 and 1998 was obtained from the theatre records. This also included the total number of cataract surgeries performed in the 2 year period.

The cost of items which constitute the "Shopping List" for cataract surgery was also obtained from the Hospital Pharmacy. Revenue Department provided information on the cost implication for cataract surgery under local anaesthesia and the cost for cataract surgery under general anaesthesia. The fee for admission deposit and operation fees for ophthalmic patients were also obtained.

Results

A total of 273 ophthalmic surgeries were performed over the 2 year period. One hundred and forty-two surgeries in 1997 and 131 in 1998. Of the 273 ophthalmic surgeries there were 106 cataract surgeries. Fifty-seven cataract surgeries were performed in 1997 and only 49 in 1998.

Table 1 Age and sex distribution of patients

Age group	M	F	Total	% of Total
0 - 10	4	3	7	6.60
11-50	6	7	13	12.27
50 and above	65	21	86	81.13
Total	75	31	106	100

Out of the 106 cataract surgries performed, there were 72 males and 34 females. All the adult (96) patients had their surgeries under local except 3 of the adult patients who had the surgeries under general anaesthesia because they were apprehensive. All the children also had general anaesthesia. All the adult patients before the age of 40 had extracapsular cataract extraction; those above had intracapsular cataract extraction. The children all had congenital cataract and had needling with aspiration.

Correspondence

Table 2 Occupation of Cataract surgery patients

Category	No.	% of Total
House wives	16	15.09
Traders	8	7.54
Civil Servants	3	2.82
Retired persons	18	16.98
Unemployed	12	11.32
Farmers	29	27.35
Children	7	6.60
Casual labourers	9	8.49
Students	4	3.77
Total	106	100

Average number of days in hospital for one eye was 7 days for unilateral cases and for bilateral cases 12 days since each eye is usually done 1 week apart in the bilateral cases.

Most of the patients who benefited from cataract surgery were farmers (27.35%). This is not unusual as farming is the major occupation of Nigerians in this locality. Retired persons came second (16.98%), followed by the house wives (15.09%).

Table 3 Breakdown of cost of hospitalisation for cataract surgery

	Amount N
Registration of patients	120.00
Admission deposit for cataract surgery patients	2,000.00
Cataract surgery fee	2,400.00
Additional cost if surgery is to be performed under general anaesthesia	550.00
Items which constitute shopping list	5,365.00
Cost of 3 or more additional nights in hospital if patients had one complication or the other	1,200.00
Grand total approx.	11,855.00

Note: 125 N = 1US Dollar

During the period under review the average cost of surgery and hospitalization were found to be between N13,000.00 and N15,000.00. The cost is reduced by N550.00 if it is done under local. It is also reduced by another N2,000.00 (Admission deposit) if done as day case. During the period under review, the National Minimum Wage was N2,000.00 monthly, It was also observed that because of the inflationary trend the cost of surgery and hospitalization were often reviewed upwards in this tertiary institution.

Discussion

This study confirmed previous hospital based studies that cataract surgery output from tertiary health institutions in Nigeria is very low[7,8]. In the 2 year period reviewed only 106 cataract surgeries were performed. With this meagre contribution it may take several decades to clear the National cataract back log of 500,000 in Nigeria.

The study also revealed that about 90% of cataract surgeries can be performed under local and that these can possibly be done more cheaply as day cases. Hospitalization attracts additional expenses which can be avoided.

The training of Medical Students and Resident Doctors is also adversely jeopardized by this low output. In this centre, we have an average of 5 Consultants, 8 Resident doctors and 400 Medical students (in groups of 40 per rotation) and about 15 ophthalmic Nurses in training. The cataract surgery out of 106 in 24 months is grossly inadequate for training.

When the Nigerian economy was better in the 70s and early 80s there was no need for a long shopping list for patients. Such items as syringes, bandages, etc listed out in the shopping list were all abundant in the hospital wards and theatres. These things are no longer available because of poor funding of the health sector. Patients have to wander about trying to purchase these items before they can settle down to have their surgeries. This does not make for a patient friendly hospital.

Against this background certain measures have now been instituted to help alleviate the sufferings of patients thereby improving the patients turnover. The surgical pack system has now been put in place whereby the items which make up the shopping list and the consumables are al bought by the hospital and packed together for patients' use. Patients who are billed for surgery no longer wander about in search of these items but come in to pay both eye surgery fee and the fee for the surgical pack. It is hoped that this patient friendly approach will help improve the turnover of patients.

The second measure is that this department has emulated what is being practiced in many academic departments of Ophthalmology[7-10] by adopting the cataract surgery outreach programme in collaboration with district hospitals and health centres to carry out day case cataract surgery in the community.

Recently following a screening exercise in the community, we had a cataract surgery outreach programme in which we performed 15 cataract surgeries as day cases within a 3 day period. These surgeries were very successful with very few complications and no cases of infection.

Cataract surgery out reach of this nature is inevitable if we are to make any headway in clearing the cataract back log of over 500,000 individuals. Cataract blindness has continued to account for more than 50% of the total blind in Nigeria[1,2,3]. More than 100,000 Nigerians become blind annually from cataract adding to the existing backlog of 500,000 individuals[3]. This number is ever increasing since cataract is an age related progressive disorder[3].

It should be noted that even though the patients in this study all had cataract surgeries without intraocular lenses, we have since early this year commenced cataract surgery with intraocular lenses. So far, results have been encouraging.

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References

1. Olurin O. Causes of Blindness in Nigeria – a study of 1,000 hospital patients. The West African Medical Journal (New series) 1973; 22(6): 97-107.

2. Ayanru JO. Blindness in the Midwestern State of Nigeria. Tropical Geographical Medicine, 1974; 26: 234-332.

3. Abiose A. Evolving Eye Care Delivery systems for developing countries: The West African perspective – Paper delivered at the Blindness prevention symposium, Amsterdam, June 1998.

4. Aylward G, Larkin D. Audit of cost and clinical outcome of cataract surgery. Health trends, 1993; Vol. 25: 126.

5. Lowe KJ, Gregory DA, Jeffery RI, Easty DL. Patient perceptions and social impact. Preliminary results of the Bristol MRC study. Eye, 1991; 5:375-8.

6. The Audit Commission. A short cut to better services: Day surgery in England Wales, London; HNSO, 1990.

7. Ezepue UF. The problem of cataract back log in Anambra and Enugu State of Nigeria – A solution in Community outreach services. NJO 1993; 2: 21-26.

8. Fafowora OF. The role of teaching hospitals in Eye Care Deliv-

ery in Nigeria by the year 2020 AD, NJO 1998; 6:20-22.

9. Okpobrisi AV, Olanuyi R, Rarbunde T. Affordable, Accessible and appropriate eye care: Peripheral eye clinics – A Pilot Project in Benue/Kogi States; Nigerian Journal of Ophthalmology 1994; 2: 62-67.

10. Akinsola FB, Majekodunmi AA, Obowu CB, Onakoya AO. Day Case Eye Surgery: Rural Community Experience. Nig. J. Surgery 1996; 3: 33-7.