ORIGINAL ARTICLE

Cataract Surgery: Limitations and Barriers in Makurdi, Benue State

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Abstract

Background: *Cataract is amenable to surgery; despite this affected patients do not always embrace or accept cataract surgical intervention. The study aims to ascertain the factors responsible for this negative attitude towards cataract surgery by affected patients.*

Methods: *A Prospective study was carried out with an interview assisted questionnaire, parameters assessed were duration of blindness before presentation, insight into the cause of cataract, awareness of the available treatment, knowledge of where to go for treatment and possible barriers to surgical treatment was administered to all consecutive patients aged 40 years and above whose cause of visual impairment and blindness is principally due to cataract for a period of one year (January 2007 December 2007)*

Results: *Senile cataract constituted 2.6% (180) of all the patients aged 40 years and above. Duration of blindness before presentation ranged from 6 to 84 months. Majority of the patients (65%) were aware that surgical intervention was the answer to their visual dysfunction.*

Conclusion: *Although, affected patients are knowledgeable that surgical intervention was the answer to their visual dysfunction, they do not readily embrace surgical intervention for diverse reasons.*

Keywords: *Cataract, limitation, surgery, Makurdi.*

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Introduction

In WHO message to IAPB Berlin 1996, blindness has been identified as a serious handicap because of the impact on the socioeconomic, psychological wellbeing not only at the individual level, but also at the family level and the community at large[1]. A blind person could be a tremendous economic burden, particularly in the developing world, where there is limited resources for survival even for the normal sighted individuals. So the enormous hardship of the blind in this environment can be best imagined.

A person is regarded blind when the best corrected vision in the best eye is less or equal to $^{3}/_{60}$ or when the central visual field is constricted to less than 10^{0}. In practical terms when a person cannot count the fingers of a hand at a distance of 3 meters.

Estimate for the number of blind people by WHO region in 2000 has shown that there are an estimated 50 million blind worldwide[1]. This figure is increasing by 1- 2 million every year. Cataract accounts for nearly half (41.8%) of global blindness. Cataract generally defined as an opacity of the crystalline lens is the commonest cause of curable blindness. If this blindness is curable then one wonders why it should render so many people blind. Eighty to ninety percent of the blind live in developing countries. This avoidable blindness from cataract has resulted into formidable worldwide backlog of some 15.8 million needlessly blind individuals. This figure is bound to double if effective measures are not put in place to address this problem. The interplay of several factors such as increasing incidence of cataract, decreasing mortality rate, increasing lifespan, and the low rate of uptake of cataract services all culminate to compounding this problem. For now, cataract surgery is the only means of reversing cataract blindness.

In Africa, the available surgical services are only capable of dealing with 1% of the prevalence rate and 10% of cataract incidence. The vast majority in developing countries is without access to the available services. There exist big gap between the eye care givers, who are concentrated in the urban settings and the recipients who are far away in the rural settings.[1 2 3]

In some situations, where an ophthalmologist is within reach, and where treatment is free, there are many socio-cultural, economic, organizational and logistic obstacles which limit the acceptability, accessibility and uptake of the available eye care service.[4]

There is urgent need to identify these barriers, eliminate them so as to reduce this great burden of curable

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blindness from cataract.

In a study, in rural Northern Nigeria, Rabiu M.M identified financial limitation as the most common barrier to uptake of cataract surgery by many cataract patients.[5] Johnson *et al* reported cost, lack of information about service, fear, transport difficulties and lack of escort as most frequently identified barriers in the Gambia.[6] In rural India, Fetcher *et al* also identified fear, cost, family responsibilities, age discrimination, fatalism and ability to cope as the main barriers.[7] Lumbury *et al* in karnatabastate India reported that barriers to surgery were changing and were linked to service providers.[8] Countright *et al* in their study in rural Malawi identified cost and lack of family support as the major barriers.[9] Snellengen *et al* study in Nepal found finance, logistics, fear, and lack of time as the prominent barriers to uptake.[10] Dhaliwal Upneet *et al* in Dehli, India identified attitudinal barrier such as could manage daily chores, cataract nor matured, could see with one eye, too busy, gender discrimination, fear of blindness and death, old age, "Its God's will" and cost as major barriers.

This study is aimed at identifying the prevalent patient-related barriers in this region and compare with other regions in other parts of the world and device ways of circumventing these obstacles to increase uptake of cataract surgery thus relieving the magnitude of available blindness.

Material and Methods

This is a hospital based, descriptive short term clinical study. All consenting patients aged 40 years and above who had severe visual impairment and blindness (based on WHO criteria for visual impairment)[11] were recruited into this study. The study was conducted between January 2007 to December 2007. following ethical clearance and protocol for the approval of the study by the Research and Ethical Committee of FMC Makurdi was duly followed.

The personal data of name, age, sex, occupation, highest level of education, place of residence were recorded.

The visual acuity (VA) of each eye was measured using the Snellen's chart for the literate and the modified Snellens 'E' tumbling chart for the illiterate patients. All patients with visual acuity between $^{6}/_{60}$ and $^{3}/_{60}$ unilaterally or bilaterally were selected. Using a pen torchlight and direct Ophthalmoscope., the eyes were examined for the likely principal cause of visual loss. Excluded from this study are all patients with other coexisting ocular disorders contributing to the visual loss. (Advanced chronic glaucoma, senile maculopathy and optic neuropathies. Limitations to cataract surgery among participants was assessed via a pretested closed end structured questionnaire.

Results

The total number of patients seen in the period of study was four thousand two hundred and twenty (4220) one thousand four hundred and seventy-seven (1477) representing 35% percent of the patients were aged 40 years and above.

Fifty-nine (59%) percent are male while forty-five (45%) percent were female. Eighty-two (82%) percent were unemployed, dependents on relatives for their surgery. Fifteen (15%) percent were veteran pensioners, self sponsored, three (3%) percent sponsored by charity organization, seventy-eight (78%) percent were rural dwellers and twenty-two (22%) percent were urban.

Senile cataract constituted 2.6% percent (180) of all patients aged 40 years and above that presented in the period of study. 59.4% percent (107) male, 40.6% percent (73) female, (82) bilateral and 54.4% percent (98) unilateral.

Only one third of the presenting cataract cases showed up for surgery. The age range is between 40 90 years, mean age of 60.5 and median age of 58 years. (Table 1).

Fifty-five (55%) percent of the patients were illiterate, thirty-five (35%) percent attained primary school certificate level and only ten (10%) percent attained the secondary school/teachers' certificate.

Duration of blindness ranged from 6-84 months, mean of 36.5 month, only sixty-five (65%) percent (117) cataract patients are aware that their visual disability is curable by surgery. Fifteen (15%) percent thought glasses could solve their problem, ten (10%) percent thought they have come to the end of the road, no remedy.

Table 2 showed that fear of death, fear of total loss of remaining vision, unspecified fear of surgery, waiting for cataract to mature, I am fine, cost, lack of escort, poor road infrastructure/distance too far were the most frequently reported patient related barriers.

Fifty-eight (58%) percent (104) of all cataract blind patients attributed their blindness to old age, twenty-three (23%) percent to witchcraft, fourteen (14%) percent are not sure of the possible cause, five (5%) percent associated their blindness with medical conditions and their medication (diabetics) (Table 3).

In this study, only 36 cataract procedures were done per year, thirty-five (35%) percent of the study group were ignorant of the available treatment.

Table I.

Demographic profile of the study Population (N = 312) (Age-Sex and laterality Distribution)

Age (Years)	No. of unilateral cases M	F	No. of bilateral cases M	F	Total
40-49	10	16	8	5	39
50-59	13	8	12	6	39
60-69	10	14	11	7	42
70-79	19	8	10	7	44
80-Above	10	0	54	2	16
Total	**62**	**46**	**45**	**27**	**180**

Table 2 **Barriers to uptake of cataract surgery.**

Barriers	No of Responses	Percentage (%)
(a) Patient related		
Fear of total loss of remaining vision post operatively	175	97.2
Unspecified fear of eye surgery	150	82.3
Waiting for cataract to 'ripe' or mature	145	80.5
I'm fine/I can manage	141	78.0
No money/cannot afford cost of surgery	135	75.0
No escort	132	73.3
Poor road infrastructure/distance too far	94	52.2
Fear of hospital staff and environment	83	46.1
I'm too old to have surgery	75	41.1
Fatalistic attitude (its God's will)	74	41.1
Do not want to wear "sheep eye" or animal eye	66	36.6
I have "sugar disease"/diabetes mellitus so my wound will not heal	12	6.6
I will consult oracles before seeking for help	11	6.1

Barriers	No of Responses	Percentage (%)
(b) Close Relatives' Related		
Aged people are no priority	81	48
No money	54	30
No caretaker/escort	9	5
Women are no priority	0	0
Social roles as beggars	0	0
Not sure of total cost involved	27	15
Blindness is God's will	9	5

Barriers	No of Responses	Percentage (%)
(c) Hospital Related Factors		
Poor surgical outcome/complications	2	15
Lack of awareness of the existing facility	8	52
High cost of surgery	10	65
Private practice/patient diversion	1	5
Low staff motivation	1	5
Rigid method of payment	1	5
Lack of instruments/materials	5	35
Frequent strike action	2	10

Table 3 Level of awareness of the possible causes of cataract Blindness.

Possible Causes of Cataract	No of Responses	Percentage (%)
Old age (senility)	104	58
Witchcraft and poisoning	41	23
Medical condition and their medication	9	5
Not sure of the cause	26	14

Appendix I: **The World Health Organization (WHO) Definitions of Normal Vision, Visual impairment and Blindness**

6/6	-	8/18	Normal Vision
<6/18	-	6/60	Visual Impairment
<6/60	-	3/60	Severe Visual Impairment
<3/60	-	NPL	Blind

Discussion

Fear, high cost, "I'm fine" syndrome and waiting for cataract to mature were the major obstacles to uptake of surgery. It also became apparent that if the word eye operation/surgery was replaced with "washing of the cataract" or "cloud" from the eye, the patients' acceptance of the procedure and uptake of surgical services tremendously increased. Adequate counseling of the cataract patient about the availability of ECCE/IOL/will greatly give a boost to uptake of cataract surgical services.

In this study, some patients with unspecified fear, expressed their unwillingness to wear "sheep eyes". They asserted that they do not want to die with any of their God given organs missing from their body. More so for their eye to be replaced by a "sheep eye." Their understanding of ECCE/IOL implant was removing the blind eye and replacing it with an animal eye (sheep). This is a new dimension of cultural belief system that needs to be disbanded to increase uptake of cataract surgery.

There is need for public enlightenment to disband the erroneous belief that cataract needs to mature i.e. patients should only come for attention when he cannot see at all. Availability of microsurgery (ECCE/IOL implant) has revolutionalized cataract surgery. Patients need not to wait till totally blinded by cataract before coming for eye surgery. From a similar study done in rural Nigeria community [5], cost was one of the major limitations, but in this study, fear constituted a major obstacles to acceptance of surgery in a great proportion of patients.

Other studies have shown that interaction with patients who had undergone successful eye surgery helped in reducing the fear-related factor. It has been noted that one bad case out of a hundred (100) cases ring more bell than the 99 successful cataract cases. Fear is closely associated with the fact that some cataract patients still have some remaining vision, putting this at risk by going for surgery is the main reason why they fear treatment.

In general, nobody likes to undergo any form of surgery, facing eye surgery is even worse.

Jeopardizing the remaining vision is absolutely frightening. From Table 3 the fear of death ranked highest among the respondents, constituting 97% (175) of responses. This may not be unconnected to the paucity of information available to the general public on cataract surgery. Generally, going for surgery is frightening for many patients, this is even worse when it has to do with the elderly. Most elderly people are so concerned with the fear of dying that whenever they are scheduled for surgery, they would rather stay blind instead of losing their lives. Both the patients and their close relatives need to be educated on the fact that most eye surgeries are done under local anesthesia and they need to know that this is less hazardous than general anesthesia especially when patients with attending medical conditions are adequately controlled preoperatively.

Due to the fact that cataract causes gradual visual loss, the fear of jeopardizing the remaining vision with its consequent blindness was one of the high ranking obstacles to uptake of cataract surgery. In this regard, a successful cataract operated patient can be a motivator of others. For the fact that cataract blindness often take years before the person becomes "functionally blind", the rural uneducated patients are able to continue most of their daily chores. They remain quite integrated in the society; there seem to be no major problem, so they claim to be basically "fine." This attitude has resulted to people not seeing reason to spend money on eye treatment for slow visual loss in older people. Since there are other competing needs, using up their slim resources on a non-life threatening condition like cataract is usually not regarded as a priority. From table 1, 78% of the respondents claim to be fine despite their visual disability.

Prior to the era of micro surgery/intraocular lens implant, surgeons preferred to operate only on matured cataract.

Many cataract patients and even health officials have being told to come or bring cataract patients when cataract is matured. There should be a re-orientation in this era of micro surgery and 10L implant that such instructions are no longer tenable. Cataract can now be operated on earlier before it renders the patient completely blind.

Consistent with the finding in previous studies in the rural community in Northern Nigeria, financial limitation was also found to be a major obstacle in this study. In this study, it became apparent that people in this community, an agrarian one may not have money in the planting season but at harvest seasons, money was available. This implies that when booking people for surgery, they should be provided with the choice of when they wish to come in for surgery. If booked at the planting or cropping season, at a time when their money has being invested in farming, they are unlikely to appear for surgery, consequently may be afraid to come again for a rebooking.

The outcome of rural-urban shift has resulted to leaving only the elderly population on their own. The issue of escort or caretaker to accompany the cataract visually disabled to the town for attention has been reported by Johnson et al in Gambia and other worker in Nepal and India. This problem was also identified in this study. If an escort is to accompany the patient for surgery, there is loss of income for the period of stay; there are additional cost of transportation, accommodation and feeding. Most respondents preferred to come for surgery during the holiday period so that their children can come as escort/caretakers.

In this study, there was no gender discrimination identified.

It is interesting to note that out of the eleven diabetic patients seen in this study, nine were bilaterally blind but were all unwilling to undergo surgery because of the notion of poor wound healing in diabetics. This group needs health education and adequate counseling. In this regards, that if the disease (diabetic mellitus) is adequately controlled preoperatively the wound healing is not unduly delayed.

Recommendations

There is a great need to put in place an elaborate community based programme to boost the awareness about cataract blindness and its curability.

Organization of community outreach programme is pertinent in order to create awareness to utilize facilities. More intensive marketing and creation of greater awareness of the superior visual rehabilitation provided by Intraocular Lens Implant (IOL) will further penetrate the market and produce a greater acceptance.

Eye camps need to be put in place in the rural communities which are primarily utilized to publicize the benefits of eye care, identify those in need, educate the population and provide services to remote population.

Local production of sophisticated supplies including 10Ls, sutures and eye drops should be encouraged and standardized by indigenous companies, this will greatly reduce the issue of cost.

Payment by installment for procedures carried out should be tried.

Doctor-patient focus must be deemphasized to an institution-community focus in order to provide greater coverage and deliver eye care to a larger proportion of the community[1].

Public awareness through radio, television and the print media should be explored as a way of raising awareness.

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