International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2022): 7.942

Quality of Life after Cataract Surgery in Elderly Population

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Abstract: ***Loss of vision invariably leads to loss of quality of life (QOL), which represents the general well-being of individuals and societies. Researchers have tended to indicate that visual acuity (VA) alone is an inadequate measure of visual impairment. Studies on QOL after cataract surgery are scarce in this part of India and there our present study holds potential to be really useful.***

1. Introduction

Quality of life (QOL) has a wide range of contexts including the fields of international development, health care, politics and employment. QOL is the general well- being of individuals and societies. A growing body of research indicates that visual acuity (VA) alone is an inadequate measure of visual impairment.[1] A patient's visual function (VF), which is a measurement of the important vision-dependent tasks that he or she can do for himself/herself and their family/society, is a more important measure of the need for cataract surgery than VA alone.[2] Blindness is considered as a cause as well as an outcome of poverty, and cataract is among the top causes of blindness and is responsible for 47% of total blindness in the world.[3] All patients should be asked if they had adequate vision (near, at a distance, under different lighting conditions) to perform activities of daily living (ADLs) and hobbies. No single test can comprehensively assess the effects of a cataract on a patient's life. To assess it, questionnaires based upon functional$_4$ vision and corresponding measurement may be useful. The impact on VF is related to patient-perceived outcomes and are significant in the evaluation of the outcome of surgical interventions therefore, both VA and functional status after surgery need to be studied to know the outcome. Vision restoration of patients through cataract surgery, has often demonstrated the enhancement of their quality of life, their participation in daily living and their improved household economic status.[5] There has been huge surge in the rates of cataract surgery in India but the quality provided may not always be optimal.[6] Studies on QOL after cataract surgery are scarce in this part of India and there our present study holds potential to be really useful. Besides, it was inappropriate to measure the outcome only by changes in visual acuity without its effect on improvement on QOL. With this background, the present study was planned and compiled after assessing the impact of cataract surgery on QOL.

2. Methods

The present study was a prospective study consisting of 300 patients aged 50 years and above who were operated for cataract in the Department of Ophthalmology, Sankara Eye Hospital from March 2022-July 2022 , a period of 4 months. Consecutive patients admitted for surgery and fulfilling the study criteria were selected.A validated, pretested semi-structured questionnaire was used for data collection. Visual acuity was measured by logMaR method.[7] Log-MAR score decreases as visual acuity improves. Vision related quality of life (VRQoL) was assessed by WHO/PBD VF 20 questionnaire, a vision specific instrument proposed by the WHO as a cross cultural tool for assessing VRQoL in low-income settings.[8] Generic health related quality of life (HRQoL) was measured using EuroQol (EQ-5D), which is an instrument developed to assess generic HRQoL.[9] Baseline data was collected before cataract surgery in the hospital and follow up was done after 2 months of cataract surgery. Informed written consent was obtained from all study participants before the study process. Analysis of data was performed to find out means and to ascertain the significance of it. The data was analyzed using statistical package for the social sciences (SPSS) software version: 21.00. P value less than 0.05 was considered significant.

3. Results

Out of the 300 patients recruited for the study, only 182 turned up for the follow up after two months' interval, i.e. 118 (40%) patients were lost to follow-up after their cataract surgery and subsequent data available was for 60% of initial study group. All the lost-out patients were therefore excluded from the analysis. Majority of patients out of 182, belonged to the age group: 60 to 70 and were males (66%) mostly. Predominantly being from rural area (76%), they were mostly illiterate or were educated up-to middle school (class 8th) level only (67%) and were pursuing agriculture/farming/daily- wager/labourer as means of occupation. A majority of them were rendered unemployed due to age or physical disabilities. As much as 72% of the people studied upon belong to the lower strata of the society, while only 5.5% belonged to the upper strata. Small incision cataract surgery and posterior chamber intra ocular lens implantation (SICS, PCIOL) was performed on 78% of subjects (Table 1).

Substantial improvement in visual acuity was observed with only 9.3% of patients showing less than 6/60 visual acuity during follow up after 2 months (Table 2).

Vision related quality of life also improved from a mean of 76.53 for overall eyesight to 36.40. This difference is also statistically significant (Table 3). There has been a very significant and marked improvement in all the basic parameters to quality of life, like usual activity pattern, mobility, pain, anxiety and depression, etc. (Table 4).

Table 1: Socio demographic characteristics of study population

Socio demographic characteristics	Number	%
Age group		
50 to ≤60	45	24.7
60 to ≤70	77	42.3
70 to ≤80	39	21.4
>80	21	11.5
Sex		
Male	120	66
Female	62	34
Residence		
Urban	140	76.5
Rural	42	23.5
Education		
Illiterate (without formal education)	56	30.7
Till primary/middle	66	36.3
Till secondary	44	24.1
Higher education	16	8.8
Type of family		
Nuclear	80	44
Non-nuclear	102	56
Occupation		
Government service	31	17
Agriculture and farming	39	21
Business/privately employed	55	30
Daily wager/labourer	23	12
Not employed	34	19
Social class		
Upper class	10	5.5
Middle class	40	22
Lower class	132	72.5
Type of cataract surgery		
SICS-PCOL*	142	78
ECCE-PCIOL**	40	22

*Small incision cataract surgery and posterior chamber intraocular lens implantation, **extra capsular cataract extraction and posterior chamber intraocular lens implantation

Table 2: Visual acuity, Baseline and follow up

Visual Acuity	Baseline (%)	Visual acuity after 2 months followup (%)
6/6 to 6/18	-	143(78.5%)
Less than 6/18 to 6/60	31(17%)	22(12.08%)
Less than 6/60 to 3/60	120(65.9%)	17(9.3%)
Less than 3/60	31(17%)	0
Mean logmar score	0.5	0.18

Table 3: Baseline and follow up : improvement in vision related quality of life.

Vision related quality of life*	Baseline Mean (95% CI)	Follow up mean (95% CI)
Overall eye sight	76.53(74.10-77.25)	36.40(35.10-37.00)
General functioning	68.65 (68.05-70.22)	28.87(28.59-29.96)
Psychological	61.67(59.80-63.38)	25.06(22.62-27.54)

CI=confidence interval, *lower score=better quality of life, p<0.001 in each case

Table 4: Distribution according to Health related quality of life (EQ-5D)

EQ-5D (EuroQol) domain	Baseline (%)	Follow up (%)
Usual activity		
No problem	52(28.57)	152(83.52)
Some problem/ unable to perform	130(71.43)	30(16.48)
Mobility		
No problem	22(12.1)	133(73.08)
Some problem/ unable to wash or dress	160(87.9)	49(26.92)
Pain		
No pain/ discomfort	16(8.79)	92(50.55)
Moderate/ Extreme pain or discomfort	166(91.21)	90(49.45)
Anxiety/ Depression		
Not anxious or depressed	21(11.54)	95(52.2)
Anxious or depressed	161(88.46)	87(47.8)
Self-rated health score mean*	42.88	63.67

*Higher score=better self-rated health, p<0.001 in each case

4. Discussion

India is a developing economy that has large population where every member of the household contributes for the sustenance of the family. This has been proven in this study that shows that despite growing age and low vision, the study population was gainfully employed and expected to be able to do so after cataract surgery. The study also shows that though quality of life of the patients was compromised yet. Reasonable VF permitted them to continue working because of the nature of their job that does not require fine acuity of vision.

The result of our study shows that even though 75.3% of the study population was more than 60 years old with majority of them (81%) were employed or pursuing some kind of occupation, while other studies have reported similar observations.[10] Majority of study subjects who underwent successful cataract surgery reported good outcome, both visually and psychologically. Although the results of the present study are consistent with other such studies conducted, which had suggested that vision related quality of life improves significantly after cataract surgery.[10-12] This surgical intervention is proven to bring about positive change in the capacity of the patients to perform their usual activities and take self-care. Almost all domains related to the generic health related QOL shows improvement and therefore there is clear and marked improvement for performance of usual activities by the patients after surgery.[10]

5. Conclusion

In conclusion, the findings from this study quantify the gains two-months following first-eye cataract surgery in three areas: general function, psychosocial impact and visual function. These results highlight that regular and complete patient follow-up visits and prescription and provision of spectacles post-surgery significantly improved vision related general functions and ensued better psychosocial outcomes amongst patient operated for cataract.

Statement of Ethics
Study adhered to the tenets of the Declaration of Helsinki. Written Informed consent was obtained from patient for publication of this study.

Conflict of Interest
Author has no conflict of interest in this study.

Funding Sources
No financial support was provided.

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