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Assessment of Quality of Life (QoL) in Patients Suffering from Cataract Attending a Tertiary Care Centre in Tripura

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ABSTRACT

Cataract is one of the most important causes of blindness globally with the vast majority of cataract blind living in low-income countries. In India an estimated of 20 lakh new cases of cataract occur every year. Blindness and visual impairment pose an enormous burden not only on human suffering but also in terms of economic loss and social burden. Due to reduced productive activity blindness leads to poverty which affects the quality of life. The present study was therefore conducted to assess the Quality of Life (QoL) and psychosocial status in patients suffering from cataract attending a tertiary care center in Tripura. A hospital based cross-sectional study was conducted among 200 cataract patients attending a tertiary care center in Tripura. A pretested and structured schedule was used to interview the study participants. Indian Vision Function Questionnaire 33 (IND-VFQ 33) was used to determine the quality of life in the cataract patients.

In the present study, out of the 200 participants, majority (49%) were between 60-70 years of age and most of them were males (67%). Around 37% of the patients were unemployed/retired and majority (52%) of the patients belonged to lower middle class. On assessment of visual function of the study participants using IND-VFQ33 questionnaire revealed that most of the study participants faced quite a bit of difficulty due to reduced vision, had to close eyes because of light from incoming vehicles, saw light as stars and had blurred vision. Feeling frightened to go out at night, less enjoyment of social functions and feeling of burden on others were some of the psychosocial issues that affected the study participants. Visual impairment caused by cataract affect general functioning, produce visual symptoms and cause psychosocial stress in the patients which ultimately affect their quality of life. Close family support and improvement of visual acuity by cataract surgery might be helpful in improving the overall quality of life.

Keywords: Cataract, Quality of life, Indian Vision Function Questionnaire 33 (IND-VFQ 33)

INTRODUCTION

Cataract is the clouding or loss of transparency of the crystalline lens in the eye as a result of tissue break down and protein clumping. Cataracts can be age-related or can be secondary to external causes. Various modifiable risk factors associated with cataract include UV

exposure, diabetes, hypertension, body mass index (BMI), drug usage, smoking and socioeconomic factors; but advancing age is the single most important risk factor for cataract. [1]

Cataract is the one of the most important causes of blindness globally with the vast majority of cataract blind living in low-income countries. [2] The major cause of blindness in the world are Cataract (33%), Glaucoma (2%) and Uncorrected refractive error (43%). [3] Approximately eight million of those blinds from cataract live in India**.** [4]

Causes of blindness in India as identified by national survey on blindness conducted in the year 2006-2007, was cataract (62.6%) which was quite high in amount and followed by refractive error (19.7%), glaucoma (5.8%), Posterior segment pathology (4.7%), corneal opacity (0.9%), other causes (4.19%), surgical complications (1.2%). [5] In India, an estimated 20 lakhs new cases of cataract are being added to the burden every year. [4]

The prevalence of cataract clearly shows a steep rise ranging from 0.5% above 30 years to 94.5% above 70 years of age. [6]

In India, National Program for Control of Blindness (NPCB) was launched in the year 1976. It was a 100% centrally sponsored scheme with a goal to reduce the prevalence of blindness from 1.4% to 0.3%. [7] Despite high-volume, good-quality and free cataract surgeries through the National Programme for Control of Blindness (NPCB) performed every year, burden of cataract persists. Although an increase in the aging population is partly contributory, [7] barriers to accessing appropriate eye care and level of improvement in the quality of life after the cataract surgery is also essential to identify and meet the backlog clear.

Blindness and visual impairment by its sheer magnitude forms an enormous problem, not only in human suffering, but also in terms of economical loss and social burden. Blindness leads to poverty due to reduced productive activity and this leads to reduced quality of life. This means reduced vision and quality of life is directly dependent on each other. [8] Reduced quality of life (QoL) is seen with visual impairment, poorer general health, lower social status and increased mortality. [9, 10]

This study was therefore conducted to assess the Quality of Life (QoL) and psychosocial status in patients suffering from cataract attending a tertiary care center in Tripura.

MATERIALS & METHODS

A hospital based cross-sectional study was conducted among the cataract patients who attended a tertiary care centre in Tripura. Data was collected from January 2019-July 2019. Patients for whom cataract was the only cause for visual impairment and who hadn't undergone any prior cataract surgery in either eye were included in the study. Patients with other co-existing ocular morbidities, had undergone prior cataract surgery and who denied to participate in the study were excluded from the study.

Considering the prevalence of cataract to be 67%,[5] level of confidence at 95% and an allowable error of 7%, the sample size calculated was 181. A total of 200 patients were recruited for the study.

A pretested and structured schedule was used to interview the study participants. Indian Vision Function Questionnaire 33 (IND-VFQ 33) was used to determine the quality of life in the cataract patients. This questionnaire is composed of 33 questions. Questions on Visual symptoms, psychosocial impact, and general functioning were assessed by a four-point response scale (1=not at all, 2=a little, 3=quite a bit, 4=a lot) General functioning include an extra response category (which scored 5) which reflected the respondent inability to carry out the task (Cronbach's alpha ≥ 0.70.). [11]

Statistical Analysis

Data was entered in Microsoft Excel version 19. Statistical analysis is mainly descriptive in nature and expressed as frequency and percentages. Mean score was calculated for the individual responses given to the

questions in the IND-VFQ 33 questionnaire. An average score was also calculated separately for each of the three domains namely general functioning, visual function and psychosocial impact.

RESULT

Table 1: Socio-demographic profile of the study participants

Characteristics	Frequency (%)
Age (in years)	
<60	62 (31.0)
60-70	98 (49.0)
>70	40 (20.0)
Gender	
Male	134 (67.0)
Female	66 (33.0)
Religion	
Hindu	133 (66.5)
Muslim	21 (10.5)
Christian	32 (16.0)
Buddhist	14 (7.0)
Caste	
General	100 (50.0)
Scheduled tribes (ST)	30 (15.0)
Scheduled caste (SC)	34 (17.0)
OBC	36 (18.0)
Marital status	
Married	168 (84.0)
Widowed	32 (16.0)
Family type	
Nuclear	34 (17.0)
Joint	166 (83.0)
Education level	
Illiterate	66 (33.0)
Primary	74 (37.0)
Secondary	36 (18.0)
Higher secondary	12 (6.0)
Graduation and above	12 (6.0)
Employment	
Housewife	54 (27.0)
Unemployed/retired	74 (37.0)
Unskilled	26 (13.0)
Skilled	14 (7.0)
Business	22 (11.0)
Service holder	10 (5.0)
Socio-economic status	
Upper class (>Rs. 6254)	3 (1.5)
Upper middle (Rs. 3127-6253)	11 (5.5)
Middle (Rs. 1876-3126)	38 (19.0)
Lower middle (Rs. 938-1875)	104 (52.0)
Lower (Rs. <938)	44 (22.0)

A total of 200 patients were interviewed for the study. Majority (49%) of the patients were between 60-70 years of age and were males (67%). Most of them were Hindus (66.5%) and belonged to the general category (50%). 84% patients were married at the time of interview and most (83%) lived in joint families and 38% had primary level of education. Around 37% of the patients were unemployed/retired and majority (52%) of the patients belonged to

lower middle class according to modified B.G classification.

Table 2: Scores of General functioning scale (IND-VFQ 33)

Problem/Difficulties	Scores (Mean ± SD)
Q1-Problem in climbing stairs	3.23±0.721
Q2- Problem in walking on road	2.81±0.69
Q3- Problem in seeing animals/vehicle on road	2.72±0.65
Q4- Problem in finding new places	2.95±0.86
Q5- Problem in going for social functions	3.19±0.94
Q6- Problem in going out at night	2.98±0.85
Q7- Problem indoors	2.32±0.59
Q8- Problem seeing steps of bus	2.28±0.84
Q9- Difficulty recognizing people from distance	3.85±0.901
Q10- Difficulty recognizing people from near	2.17±0.568
Q11- Problem in using a lock	2.41±0.803
Q12- Problem doing usual work	2.37±0.596
Q13- Problem doing work up to usual standard	2.55±0.867
Q14 Problem in searching things at home	2.23±0.735
Q15- Problem in seeing in the sunlight	3.05±1.223
Q16- Problem in seeing indoors after being outdoor	2.18±0.640
Q17- Problem in seeing colors	2.17±1.315
Q18- Problem in making out coins, notes	1.85±1.092
Q19- Problem in going for toilet	1.86±0.618
Q20- Problem in seeing objects fallen in food	2.74±0.74
Q21- Problem in seeing level of liquid in a container	3.20±1.089

Table 2 shows the mean scores of the difficulty faced in carrying out the daily activities in the general functioning scale of IND-VFQ 33 questionnaire. The study participants faced “a little” to “quite a bit” of difficulty in carrying out most of the daily activities. Most of the study participants faced quite a bit of difficulty in climbing stairs, going for social functions, recognizing people from distance, seeing in the sunlight and seeing the level of liquid in a container.

Table 3: Scores of Visual function scale (IND-VFQ 33)

Problem/Difficulties	Scores (Mean ± SD)
Q1-Do you have reduced vision?	3.21±0.767
Q2- Are you dazzled in bright light?	1.52±0.902
Q3- Is your vision blurred in sunlight?	2.65±1.111
Q4- Does bright light hurt your eyes?	2.57±0.877
Q5- Do you close your eyes because of light from vehicles	3.00±0.777
Q6- Does light seem like stars?	2.98±0.85
Q7- Do you have blurred vision	2.98±0.649

Table 3 shows the mean scores of the physical symptoms faced in the visual function scale of IND-VFQ 33 questionnaire. Most of the study participants faced quite a bit of difficulty due to reduced vision, necessity to close eyes because of light from vehicles, seeing light as stars and blurred vision.

Table 4: Scores of Psychosocial Impact scale (IND-VFQ 33)

Problem/Difficulties	Scores (Mean ± SD)
Q1-Feel frightened to go out at night	3.23±0.523
Q2- Enjoy social functions less	3.43±0.534
Q3- Ashamed that you cannot see	2.24±0.983
Q4- Feel you are a burden on others	3.21±0.762
Q5- Frightened that you may lose remaining vision	2.40±0.862

Table 4 shows the mean scores of emotional effects of diminished vision as measured by the psychosocial impact scale of IND-VFQ 33 questionnaire. Feeling frightened to go out at night, less enjoyment of social functions and feeling of burden on others were some of the psychosocial issues that affected the study participants quite a bit.

Table 5: QoL scores for the three domains

Scale	Average QoL score	Total achievable score
General functioning scale	55.11±10.06	105
Visual function scale	18.86±3.63	28
Psychosocial impact scale	14.51±3.66	20

Table 5 shows the QoL scores for the three domains namely general functioning, visual function and psychosocial impact as against their total achievable score. The table shows more than average reduction in all the three QoL domains for the study population.

DISCUSSION

The present was conducted to assess the quality of life of cataract patients who attended a tertiary care center in Tripura. A total of 200 patients participated in the study.

In our study, majority of our study subjects (69%) were above 60 years of age and about 33% had no formal education. Domple VK et al in their study in rural Maharashtra noted that mean age of the patients was 62.5 years. [12] Harvey AS et al also reported similar findings in their study. [13]

Majority of the patients in the present study were males (67%). This may be due to gender bias or low status of women in the household or simply low women attendance in the hospitals. Lewallen S et al. have reported similar findings in their study. [14]

Visual impairment leads to reduction in the quality of life. Sometimes there is tendency among the visually impaired to deny the extent to which they are visually impaired. Majority of the patients (69%) said they had little to no difficulty finding their way indoors. Lane SD et al in a study in Egypt reported that stigmatizing attitude towards the blind encourage those with decreased vision to deny the extent of their visual loss. [15]

In the present study, as self-assessed by the patients most of the daily activities were affected due visual impairment caused by cataract. The National Survey of Blindness and Visual Impairment, Nigeria reported a strong correlation between decreasing visual acquity and impact on mobility related activities. [16]

Cataract produce visual symptoms. Decrease in visual acuity, blurring of vision, sensitivity to glare, coloured halos around light are some of the common symptoms reported by cataract patients. In the present study, the participants responded to face quite a bit of difficulty due to reduced vision, necessity to close eyes because of light from vehicles, seeing light as stars and blurred vision.

Visual impairment due to cataract is known to be associated with depression. Although depression among the study participants wasn't directly investigated in the present study, however changes in the psychosocial status of the patients was noted. Most of the study participants were frightened to go out at night, were unable to enjoy social functions and had a feeling of burden on others. Ayinmode T et al. in a study in Nigeria reported high rate of psychological disorders among the blind people. [17] Another study in Nigeria reported a similar strong correlation between decrease in visual acuity and impact on psychosocial status. [14]

A poor quality of life across the three domains of general functioning, visual function and psychosocial impact was observed in the present study. In a clinical study conducted by Adigun K et al, it was noted that the quality of life was particularly poor in those who perceived severe visual impairment and was associated with

reduced functioning and social interaction. [18]

CONCLUSION

The study revealed that visual impairment caused by cataract affected general functioning, produced visual symptoms and caused psychosocial stress in the patients which ultimately affected their quality of life. Close family support in carrying out the daily activities and improvement of visual acuity by cataract surgery will be helpful in improving the overall quality of life of cataract patients.

Declaration by Authors

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