

# Quality of Life Among Patients with Impaired Vision

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## ABSTRACT

**Introduction:** Individuals with impaired vision often experience stress that can lead to psychological, physical, and psychosocial effects. It has a significant impact on quality of life (QOL). The objective of the study was to assess QOL among patients with impaired vision, visiting the Department of Ophthalmology, of Tertiary Care Hospital, Vellore.

**Methods:** A quantitative descriptive study design was utilized; consecutive sampling technique was used. After written informed consent was taken, 200 subjects were recruited for the study. Data was collected using Visual Functioning Questionnaire-25 (VFQ-25). Descriptive and inferential statistics were used to analyse the data.

**Result:** The findings revealed more than half of them had poor QOL. There was a significant association between educational level ( $p = 0.004$ ), employment status ( $p = 0.013$ ), monthly income ( $p = 0.002$ ), and availing government benefits ( $p = 0.017$ ) with QOL of Visually impaired. The study demonstrated that people with impaired vision faced challenges in maintaining the quality of life. Education, Counselling, and Rehabilitation can address the needs and bring a better outcome in their lives.

**Key words:** Visual impairment, Quality of life.

**Key message:** Visual impairment has impact on the QOL. There is a significant association between educational level, employment status, monthly income, and availing government benefits with QOL. Education, Counselling, and Rehabilitation can address the needs.

## INTRODUCTION

The ability of the person to perform daily activities are limitation due to the disease or disorder of eye or visual system is referred to as visual impairment (VI). It is not only a significant global health problem, but also has major impact on the individual with VI and his family, <sup>[1]</sup>

Globally 285 million were affected with visual impairment The burden of visual impairment in India is estimated to be 62 million of this 8 million are blind, <sup>[2]</sup> Especially Prevalence of VI in the elderly ranges from 22% to 35%, <sup>[3]</sup> The prevalence of blindness is 4 per 1000 population in Tamil Nadu, <sup>[4]</sup> VI is linked to falls, injury, and worsen psychological state, cognition, social function, employment, and academic attainment, <sup>[5]</sup>. There by it can affect one's quality of life.

**Aim:** The study aims to assess the quality of life among patients with impaired vision visiting the Department of Ophthalmology of a Tertiary care hospital.

**Objective of the Study:** The Primary objective was to assess the quality of life, of patients with impaired vision.

The Secondary objectives was

To study the association of quality of life with selected demographic and clinical variables of patients with impaired vision.

## MATERIALS & METHOD

A quantitative research approach was used to conduct the study, and a descriptive design was adopted to assess the quality of life among patients with impaired vision. The study was conducted in the Ophthalmology department of a Tertiary care hospital Vellore, Tamil Nadu, South India that provides both outpatient and inpatient service with 2700 beds. It also has specialty services like glaucoma, cornea, and low vision clinics.

The population consisted of visual impaired adult male and female patients visiting OPD or admitted in Ophthalmology department during the study period. Consecutive sampling technique was used, at 5% precision and 95% desired confidence level 200 samples participated in the study.

Inclusion criteria were VI patients who are 18 years and above, who can understand either English, Tamil, or Hindi, able to perform activities of daily living with minimal support, and the exclusion criteria are who are emotionally unstable, critically ill, having cognitive impairment, and patients being prepared for surgical intervention.

Description of the Instruments:

Part A- Demographic Data and Clinical Profile were used for collecting demographic and clinical characteristics. The demographic

variables included age, gender, marital status, educational level, employment status, income per month, breadwinner of the family, type of family, and availing any government benefit.

The clinical variables included clinical diagnosis, comorbidities responsible for visual impairment, and other co-morbidities. Part B -Visual Functioning Questionnaire - 25 (VFQ-25).

It has established the reliability and validity of Cronbach's alpha value of  $\alpha = 0.84$  and measure the influence of visual impairment on QOL.

The data collection was done for 6 weeks. Patient chart was assessed in electronic medical record and made sure the inclusion criteria. Information on confidentiality and privacy of the data collected was explained before conducting the interview.

## STATISTICAL ANALYSIS

The descriptive statistics mean (SD) was reported for the quantitative variables and frequency. Percentage was used to present demographic and clinical variables. Independent-t-test and ANOVA were used to compare mean between the QOL with the selected socio-demographic and clinical variables. The p-value of 0.05 was statistically significant and SPSS version 21.0. was used for statistical analysis

The study was conducted with approval of the Research Committee of College of Nursing, Dissertation Committee and the Institutional Review Board. Data collected were kept confidential and utilized for research purposes only.

## RESULT

**TABLE 1** Distribution of Subjects based on Clinical Variables (n=200)

Clinical variables	Frequency (n)	Percentage (%)
Clinical diagnosis		
Corneal conditions	14	7.00
Optic disc conditions	68	34.00
Macular conditions	11	5.50
Retinal conditions	96	48.00
Congenital conditions	5	2.50
Trauma	3	1.50

Other conditions	3	1.50
Comorbidity related to eye complication		
DM	39	19.50
HTN	10	5.00
DM & HTN	64	32.00
No DM/HT	87	43.50

Table 1 reveals that the majority of subjects were affected with retinal conditions (48%) and the majority (43.5%) had no eye-related comorbidities.

Figure 1 The data collected to assess the quality of life of subjects with visual impairment were analysed and interpreted as good and poor quality of life.

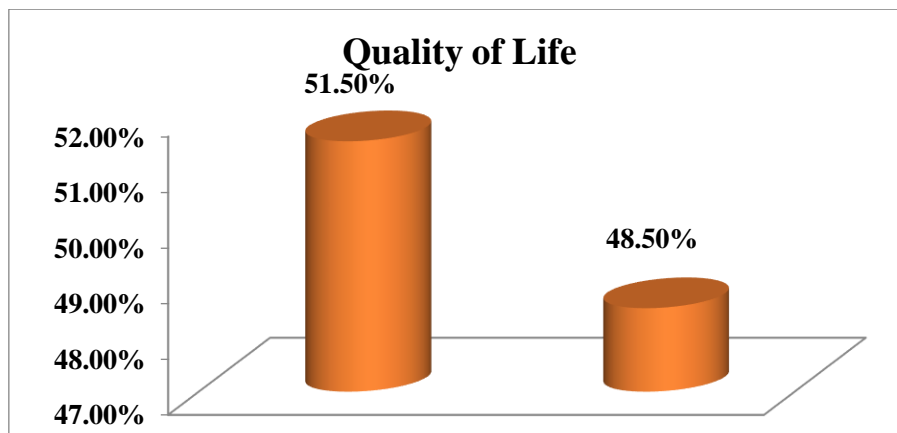


FIGURE – 1 Distribution of Subjects in relation to QOL (n=200)

Figure 1 depicts that the majority (51.5%) of the subjects had a poor quality of life and the remaining (48.5%) had a good quality of life.

TABLE 2 Association of Quality of Life with Demographic Variables of Subjects with Impaired Vision (n=200)

QUALITY OF LIFE				
Demographic variables	Frequency	Mean ± SD	F/t value	p-value
<b>Age (In Years)</b>				
18-40	46	27.40 ± 14.04	0.24	0.7881
41-60	82	27.65 ± 12.46		
>60	72	28.80 ± 11.14		
<b>Gender</b>				
Male	107	27.60 ± 12.81	0.495	0.621
Female	93	28.47 ± 11.83		
<b>Marital Status</b>				
Married	163	28.20 ± 11.63	0.33	0.7170
Single	33	26.69 ± 15.58		
Others	4	31.13 ± 13.17		
<b>Educational Level</b>				
Illiterate	39	26.99 ± 10.32	5.575	0.004**
School level	118	26.36 ± 12.34		
Graduate	43	33.43 ± 12.76		
<b>Employment Status</b>				
Student	10	29.88 ± 17.21	3.277	0.013*
Employed	50	32.61 ± 12.25		
Unemployed	116	25.49 ± 11.28		
Business	5	29.17 ± 19.41		

<b>Retired</b>	<b>19</b>	<b>29.96 ± 11.20</b>		
<b>Income Per Month</b>				
< 5000	83	24.39 ± 11.13	6.637	0.002**
5000-10000	53	29.78 ± 13.02		
>10000	64	31.23 ± 12.23		
<b>Bread Winner of Family</b>				
Yes	114	28.65 ± 12.66	0.8567	0.3927
No	86	27.14 ± 11.92		
<b>Type of Family</b>				
Joint	117	28.69 ± 13.29	2.015	0.928
Nuclear	83	27.04 ± 10.88		
<b>Avail Govt. Benefit</b>				
Yes	42	23.98 ± 11.25	2.408	0.017*
No	158	29.08 ± 12.43		

\*p < 0.05, \*\*p < 0.01

Table 2 reveals that there is a difference in the mean percentage value of quality of life among variables such as educational level (p = 0.004), employment status (p = 0.013), monthly income (p = 0.002), and availing government benefit (p=0.017) which are statistically significant.

**TABLE-3 Association of Quality of Life with Clinical Variables of Subjects with Impaired Vision (n = 200)**

<b>Quality Of Life</b>				
<b>Clinical Variables</b>	<b>Frequency</b>	<b>Mean ± SD</b>	<b>F/t value</b>	<b>p-value</b>
<b>Clinical Diagnosis</b>				
Corneal conditions	14	20.10 ± 10.50		
Optic disc conditions	68	26.90 ± 13.39		
Macular conditions	11	40.99 ± 10.06	5.218	0.001**
Retinal conditions	96	28.73 ± 10.76		
Others	11	25.52 ± 13.81		
<b>Comorbidity</b>				
DM	39	29.38 ± 10.91	0.329	0.805
HTN	10	28.68 ± 13.72		
DM & HTN	64	26.94 ± 12.03		
No DM/HTN	87	28.09 ± 13.12		

\*\*P < 0.001

Table 3 reveals that there is a statistically significant difference in the mean percentage of QOL with clinical diagnosis (p = 0.001).

## DISCUSSION

The analysis of Socio-demographic variables of the study showed that majority of participants (41%) were between the age group of 41- 60 years. WHO (2020) supports this by the statistics that more than 82% of visual impaired are in the age group older than 50 years. The study revealed that 53.5% of the participants were male. The findings revealed could be due to the higher attendance of men to health care services when compared to women, which is combined with the cultural, social, or financial background of Indian families. This is in contrast with the literature finding that says 2/3<sup>rd</sup> of all blind people in the world are

female. The same study mentions that the number of women developing cataracts is higher when compared with men, but more men get surgical interventions for restoration of vision,<sup>[6]</sup>

While looking into the marital status of individuals with visual impairment, the descriptive study showed that 81.5% were married. The main reason might be due to visual impairments commence at the age of above 40 years, and by this age according to Indian culture most of the individuals are married and their spouse provides needed attention to the counterpart in health-related issues. Hence married individuals get the opportunity to access health care services. A

study was done to assess “Marital status and its relationship with the risk and pattern of visual impairment in a multi-ethnic Asian population” stated that 77.3% of study participants were married,<sup>[7]</sup>

Around 57% subjects of this descriptive study were breadwinners of the family which denoted that deterioration in the vision of an individual may affect the entire family. The reason for the majority being breadwinners can be due to the age and gender of the subject since it was evident that the majority were males in the productive age group who also took up the role of head of the family.

According to the analysis of clinical variables of the study 48% of subjects were affected with retinal conditions which is the primary cause for their visual impairment. This is supported by a study “Blindness and visual impairment due to retinal diseases”<sup>[8]</sup> which states that globally diabetic retinopathy is the cause for 5% of 45 million blind.

The current study revealed that 32% of subjects had both diabetes and hypertension as these diseases make them highly prone for visual impairment. This is supported by,<sup>[9]</sup> WHO report that states high systolic blood pressure had an association with diabetic retinopathy and vision loss. Hence additional attention needs to be given while caring for visually impaired subjects with hypertension and diabetics to prevent further complications.

### **The Primary Objective**

#### ***To assess quality of life of subjects with impaired vision***

The current descriptive study revealed that more than half of the subjects (51.50%) have poor quality of life. This can be due to a lack of independence, disability, dependency, unemployment, and financial need for health care. Regarding this, the literature indicates that the QOL of the visually impaired is dependent on the severity of the impairment, subjects with severe visual impairment have significantly poor QOL.<sup>[10]</sup>

A study showed that the QOL of the individual starts deteriorating at the onset of

visual impairment and worsens as the impairment progresses,<sup>[2]</sup> Subjects in the present study also expressed that their functional ability declined as the impairment progressed, which led to unemployment and severe financial crisis which ultimately can lead to poor quality of life.

The Second Objective of the Study is to Determine the Association Between the Quality of Life with Selected Demographic and Clinical Variables of the Subjects with VI.

#### ***Association of QOL with selected demographic variables***

The study findings revealed that there is a significant difference in mean percentage of QOL with educational status ( $p = 0.004$ ). Probably due to better life style, behavioural changes that happen in an individual due to education and ability to access the facilities available this was supported by a study done to assess the influence of socio demographic characteristics on vision related QOL which revealed that the individual without formal education had low score of quality of life,<sup>[11]</sup>

There is a significant difference in the mean percentage of quality of life with employment status ( $p = 0.013$ ). The literature stated that there is a significant correlation between quality of life and employment status. It further explains that the income of the patient decides the quality of life. The feeling of self-worth and independence determines the improvement in QOL which is lacking in unemployed,<sup>[12]</sup>

The current study also revealed that there is a significant difference in the mean percentage of quality of life with income ( $p = 0.002$ ) and with availing government benefits ( $p = 0.017$ ). This may be due to the availability of finance to meet the needs of daily living, medical expenses, and other needs. These findings are supported by literature that the quality of life of the visually impaired is reduced due to changes in economic conditions,<sup>[12]</sup>

*The clinical variable* of the current study revealed that there is a difference in the mean percentage of subjects with macular conditions ( $p = 0.001$ ) and quality of life. It

was explained in the literature that patients diagnosed with retinitis pigmentosa (macular condition) understand gradual impending loss of vision and develop coping strategies that leads to have a better quality of life,<sup>[13]</sup> On the contrary in another literature, it was revealed that even a mild or early glaucoma has an association with reduction in the quality of life and as the disease progresses the difficulty with dark adaptation, glare, and visual field deficit leads to worsening of quality of life,<sup>[14]</sup>

### Recommendation

A qualitative study needs to be done to find out the exact cause that affects the QOL and support the patients to achieve better QOL.

### Limitation of the Study

The QOL of the subjects were not assessed prior to the diagnosis therefore the findings are limited to the current status only.

### CONCLUSION

When considering the overall findings, the educational level, employment status, and income play a major role in the life of the subjects with impaired vision. The findings of the study helped to identify and understand the difficulties faced by visually impaired patients and their quality of life. The study also unveiled the need for psychosocial care for patients with VI. Hence Nurse's role is important in reducing the stress, promoting self-care, resolving grief; motivating participation in the rehabilitation services, increasing the productivity, mobility, and independency. The extended role of the Nurse as a counselor, educator and rehabilitator will be an exceptional support to people who suffer with impaired vision.

### Declaration by Author

**Ethical Approval:** Approved

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