

Vision Related Qulaity of Life (VRQOL) Among Individuals with Visual Impairment- A Descriptive Cross Sectional Study

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ABSTRACT

Introduction: Visual impairment is a major public health concern that can adversely affect daily functioning, independence, psychological well-being, and social participation. Assessing vision-related quality of life (VRQOL) provides valuable insight into the impact of visual impairment beyond clinical measures. This study assessed VRQOL among visually impaired individuals in Madurai. **Methodology:** A quantitative, descriptive cross-sectional design was adopted at Kirubai Foundation Trust, Blindness Colony, Madurai. Fifty individuals with visual impairment were selected using convenient sampling. Data were analyzed using descriptive and inferential statistics. **Results:** Overall, 44% of participants had fair VRQOL, 34% had good VRQOL, 12% had poor VRQOL, and 10% had excellent VRQOL. No statistically significant association was found between VRQOL and demographic variables, including age, gender, marital status, education, and employment, or clinical variables such as comorbidity and diagnosis ($p > 0.05$). **Conclusion:** Most participants experienced fair VRQOL, highlighting the need for comprehensive rehabilitation, assistive technologies, social support, and nursing interventions to promote independence and well-being among visually impaired individuals.

Key Words: Visual impairment; Vision-related quality of life; Quality of life; Visually impaired individuals; Nursing care.

INTRODUCTION

“Vision loss may limit sight, but it should never limit quality of life.”

Visual impairment is a major public health issue and one of the most common sensory disabilities worldwide. visual impairment refers to a reduction in vision that cannot be corrected completely with standard glasses, contact lenses, medication, or surgery and that interferes with daily activities. Visual impairment may range from mild visual difficulty to severe low vision and complete blindness. Globally, at least 2.2 billion people live with some form of vision impairment or blindness, and approximately one billion cases could have been prevented or remain untreated. Visual impairment has far-reaching psychological consequences. In India, visual impairment remains a significant healthcare burden due to population growth, aging, poverty, and unequal access to eye care services. Rural and semi-urban communities may experience greater barriers to healthcare access, including lack of awareness, delayed diagnosis, inadequate rehabilitation facilities, and financial constraints. Low- and middle-income countries carry a disproportionately higher burden of vision-related disability due to unmet eye care needs (WHO, 2026).

Individuals with reduced vision frequently experience emotional distress, anxiety, fear of injury, frustration,

loneliness, and depression due to restricted independence and limited participation in social activities (Renaud & Bédard, 2013). Social isolation may occur because visually impaired individuals often encounter barriers in communication, mobility, and accessibility to public spaces. In addition to physical and emotional challenges, visual impairment also affects economic productivity and employment opportunities. Studies suggest that visually impaired individuals may experience lower workforce participation, limit educational opportunities, and reduce financial independence (WHO, 2026).

People with visual impairment often face difficulties in performing activities of daily living such as reading, recognizing faces, walking safely, using transportation, cooking, and personal care (Burton et al., 2021). Assessing quality of life among visually impaired people is essential because it provides a comprehensive understanding of how visual disability affects physical functioning, emotional well-being, social relationships, and environmental adaptation. Unlike clinical assessment, quality-of-life evaluation focuses on the lived experiences of individuals and helps identify unmet needs and barriers to independent living.

The significance of this study lies in assessing Quality-of-life can help identify challenges related to physical functioning, emotional health, social support, and environmental accessibility. Such information is valuable for nurses, rehabilitation professionals, policymakers, and public health planners. Madurai district in Tamil Nadu includes populations with varied socioeconomic and cultural backgrounds. However, limited research has specifically focused on quality of life among visually impaired individuals in selected areas of Madurai. Most available studies emphasize prevalence and cause of blindness rather than its impact on everyday life.

Statement of The Problem:

A descriptive cross sectional- study to assess the Vision - Related Quality of Life (VRQOL) among individuals with visual impairment in selected areas of Madurai.

Objectives

1. To assess the vision- related quality of life among people with visual impairment in selected areas of Madurai.
2. To find the association between the vision- related quality of life among people with visual impairment and selected demographic variables & clinical variables.

METHODOLOGY

Research Approach:

Quantitative approach was used for this study.

Research Design:

Descriptive cross-sectional design was adopted for the study.

Research Variable:

In this study, **Vision-Related Quality of Life (VRQoL)** is the **dependent (outcome) variable** being measured, as it reflects how visual impairment affects an individual's physical, psychological, social, and functional well-being.

Setting of The Study

The study was conducted at **Kirubai Foundation Trust**, Blindness Colony, Annai Sathya Nagar, Kalmedu, Madurai. This rural community is located approximately 9 km away from Sacred Heart Nursing College. There are a total of 60 families residing in this community. Among the population, 8 individuals have complete blindness, and 42 individuals have partial blindness.

Study Population:

In this study, the target population was the individuals with visual impairment in the Madurai district. The accessible population was the individuals with visual impairment in selected areas of the Madurai district.

Sampling:

Samples of the study were the individuals with visual impairment who fulfilled the inclusion criteria. The Total sample comprised 50 clients with visual impairment. A Convenient sampling technique was used to select the samples. The samples were selected based on the following criteria:

Inclusion Criteria

- ✓ Individuals diagnosed with visual impairment, including both complete blindness and partial blindness.
- ✓ Individuals with visual impairment who were more than 18 years of age.
- ✓ Individuals with visual impairment of both genders
- ✓ Individuals with visual impairment who were able to speak/understand Tamil or English.

Exclusion Criteria

- ✓ Individuals not willing to participate

Research Tools & Techniques:

The research tool for the current study was developed based on the objectives of the study, review of literature, suggestions of experts, and findings. The tool for the current study consists of two sections.

SECTION A: Structured interview schedule of Sociodemographic & clinical variables

It consists of 2 subsections:

1) Demographical Variable

It consists of demographic characteristics of individuals with visual impairment, which include name, age, gender, marital status, educational status, employment status, breadwinner of the family, and type of family.

2) Clinical Variables

It consists of comorbid conditions and causes of visual impairment.

SECTION B: Structured interview schedule on Visual Functioning Questionnaire–25 (VFQ-25)

The National Eye Institute Visual Function Questionnaire–25 (NEI-VFQ-25) is a standardized instrument used to assess Vision-Related Quality of Life (VRQOL) among individuals with visual impairment. It measures the influence of visual disability and visual symptoms on an individual's daily functioning, emotional well-being, and social interaction. The VFQ-25 consists of 25 items that evaluate the participant's perception of their visual functioning and the impact of vision problems on quality of life. Each item in the questionnaire has a set of response options arranged on a Likert-type scale. Responses are scored and transformed into a scale ranging from **0 to 100**, where higher scores indicate better vision-related quality of life and lower scores indicate greater visual difficulty or poorer quality of life.

Interpretation of VRQOL:

The total score was calculated by averaging the subscale scores. The obtained scores were interpreted as follows:

- ❖ 0–25 – Poor Vision-Related Quality of Life
- ❖ 26–50 – Fair Vision-Related Quality of Life
- ❖ 51–75 – Good Vision-Related Quality of Life
- ❖ 76–100 – Excellent Vision-Related Quality of Life

Validity/ Reliability:

The NEI-VFQ-25 is an established standardized instrument with published evidence supporting its validity and psychometric properties (Mangione et al., 2001). The NEI-VFQ-25 is a standardized instrument with previously reported psychometric properties. However, a separate reliability assessment was not conducted in the present study.

Data Collection Procedure:

Prior to data collection, formal permission was obtained from the concerned authority of Kirubai Foundation Trust to conduct the study among individuals with visual impairment residing in the selected community. The purpose and objectives of the study were explained to the authority, and necessary approval was obtained. A pilot study was conducted among 5 individuals with visual impairment to assess the feasibility and clarity of the data collection procedure and the time required for administration.

The study was conducted at Kirubai Foundation Trust, Kalmedu, Madurai. Eligible participants were identified with the assistance of community representatives and local coordinators. The researcher introduced herself to each participant and explained the purpose, procedures, and voluntary nature of participation. Written informed consent was obtained from all participants after assuring confidentiality and anonymity. Data were collected through face-to-face, interviewer-administered interviews, considering the visual limitations of the participants. Initially, demographic and selected clinical characteristics were collected using a structured questionnaire. Subsequently, the National Eye Institute Visual Function Questionnaire-25 (NEI-VFQ-25) was administered orally in Tamil. Each item and its response options were read aloud to the participant in a standardized manner, without explaining, paraphrasing, or influencing the participant's response. Participants were asked to select the response that best represented their experience, and the researcher recorded the selected response accurately. Each participant was interviewed individually in a comfortable and private setting, and sufficient time was provided to complete all items and clarify the response choice when required, without influencing the participant's decision. On completion of the interview, the responses were reviewed for completeness, and the participant was thanked for their cooperation and participation.

Data Analysis:

After the data collection, data was organized and analyzed by the following statistical methods.

Descriptive statistics

Mean, standard deviation, frequency, percentage was used to describe the data.

Inferential statistics

Chi- square was used to determine the association between selected demographic/ clinical variables and Vision related quality of life (VRQOL).

Ethical Clearance:

The study approval was obtained from the Institutional Ethics Committee prior to the commencement of the study. Permission to conduct the study was obtained from the concerned institution/setting. Written informed consent was obtained from all participants after explaining the purpose, procedures, potential benefits, and

voluntary nature of participation. Participants were assured of confidentiality and anonymity, and they were informed of their right to withdraw from the study at any time without penalty.

RESULTS

A total of 50 individuals with visual impairment participated in the study. Regarding demographic characteristics, 52% of participants were aged 41–60 years, while 24% each were aged 18–40 years and above 60 years. Males constituted 52% and females 48% of the sample. The majority were married (92%). Regarding educational status, 52% were illiterate, 30% had school-level education, 14% were graduates, and 4% had postgraduate education. In terms of employment status, 38% were unemployed, 32% were employed, 28% were homemakers, and 2% were students. (Table 1). With respect to clinical characteristics, most participants (78%) had no reported comorbidity. Hypertension was present in 10%, diabetes mellitus in 8%, and both diabetes and hypertension in 4%. Regarding the clinical diagnosis/etiology of visual impairment, congenital blindness was the most common cause (42%), followed by corneal conditions (28%), optic disc conditions (12%), retinal conditions (8%), history of chickenpox (8%), and macular conditions (2%). (Table 2).

DEMOGRAPHIC VARIABLES	f	%
1.Age (in years)		
18-40	12	24%
41- 60	26	52%
>60	12	24%
2.Gender		
Male	26	52%
Female	24	48%
3.Marital status		
Married	46	92%
Unmarried	4	8%
Divorced		
4.Education level		
Illiterate	26	52%
School level	15	30%
Graduate	7	14%
Post Graduation	2	4%
5.Employment status		
Student	1	2%
Employed	16	32%

Unemployed	19	38%
Home Maker	14	28%

Table 1: Frequency and percentage distribution of individual with visual impairments based on their demographic characteristics.

CLINICAL VARIABLES	f	%
Co- Morbidity		
DM	4	8%
HTN	5	10%
DM/HTN	2	4%
No comorbidity	39	78%
Others	-	-
Clinical Diagnosis/ Etiology		
Corneal condition	14	28%
Optic disc conditions	6	12%
Macular conditions	1	2%
Retinal conditions	4	8%
Congenital Blindnes	21	42%
History of Chicken Pox	4	8%

Table 2: Frequency and percentage distribution of individual with visual impairments based on their clinical variables

The distribution of overall vision-related quality of life (VRQOL) showed that 44% of participants had a fair level of VRQOL, 34% had good VRQOL, 12% had poor VRQOL, and 10% had excellent VRQOL (Figure 1).

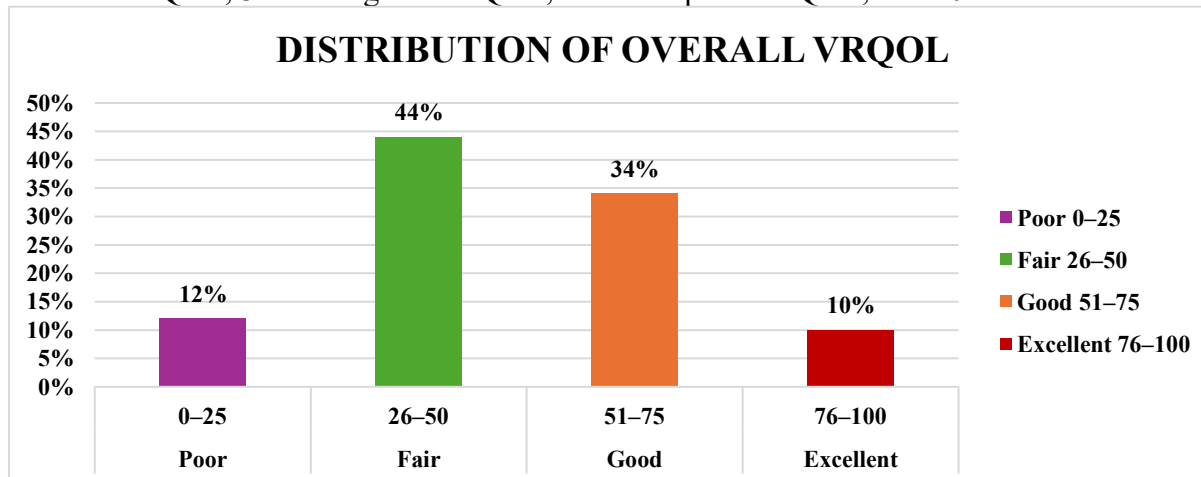


Fig 1: Distribution of overall VRQOL among individuals with visual impairments

Association analysis revealed no statistically significant relationship between VRQOL and any of the selected demographic variables. Age ($\chi^2=3.12$, $p=0.794$), gender ($\chi^2=0.52$, $p=0.914$), marital status ($\chi^2=1.96$, $p=0.580$), education level ($\chi^2=4.08$, $p=0.849$), and employment status ($\chi^2=9.24$, $p=0.161$) were not significantly associated with VRQOL at the 0.05 level of significance. Similarly, no statistically significant association was observed between VRQOL and clinical variables, including comorbidity ($\chi^2=1.08$, $p=0.781$) and clinical diagnosis/etiology ($\chi^2=6.32$, $p=0.707$). Thus, none of the assessed demographic or clinical variables demonstrated a significant association with VRQOL in this study. (Table 3,4)

S. NO	VARIABLES	χ^2 VALUE	P-VALUE
1	Age	3.12	0.794 #
2	Gender	0.52	0.914 #
3	Marital Status	1.96	0.580 #
4	Education Level	4.08	0.849 #
5	Employment Status	9.24	0.161 #

Table 3: Association between demographic variables and level of **Vision-Related Quality of Life (VRQOL)** among individual with visual impairments.

S.NO	VARIABLES	X ² VALUE	P-VALUE
1	Comorbidity Diabetes Hypertension DM and Hypertension No co morbidity Others	1.08	0.781 #
2	Clinical Diagnosis/ Etiology Corneal degeneration Optic disc conditions Macular degeneration Retinal conditions Congenital blindness History of Chicken Pox	6.32	0.707 #

Table 4: Association between clinical variables and level of **Vision-Related Quality of Life (VRQOL)** among individuals with visual impairments.

DISCUSSION

The present study assessed vision-related quality of life (VRQOL) among 50 individuals with visual impairment in selected areas of Madurai using a descriptive cross-sectional design. Overall, the findings demonstrate that visual impairment has an important impact on the functional and psychosocial dimensions of daily life.

In the present study, 44% of participants had fair VRQOL, followed by 34% with good, 12% with poor, and 10% with excellent VRQOL. Thus, nearly half of the participants experienced a moderate level of limitation associated with their visual impairment. The findings suggest that although some individuals may adapt successfully to visual loss, a substantial proportion continues to experience difficulties in performing routine activities. Difficulties related to reading, mobility, recognizing faces, performing daily activities, and maintaining independence may substantially affect perceived quality of life. These findings are consistent with previous evidence indicating that visual impairment is associated with limitations in physical functioning, independence, emotional well-being, and social participation. Mangione et al. (2001) reported that visual impairment adversely affects several dimensions of health-related quality of life, while Finger et al. (2011) demonstrated that visual impairment is associated with reduced independence and functional limitations. Varma et al. (2006) similarly reported an association between reduced visual function and poorer quality of life.

The demographic profile of the present study showed that more than half of the participants (52%) were aged 41–60 years, 52% were male, 92% were married, and 52% were illiterate. Furthermore, 38% were unemployed. This profile indicates that visual impairment may have implications not only for functional independence but also for educational and employment opportunities. However, the present study did not demonstrate a statistically significant association between VRQOL and age, gender, marital status, educational level, or employment status. Specifically, age ($\chi^2=3.12$, $p=0.794$), gender ($\chi^2=0.52$, $p=0.914$), marital status ($\chi^2=1.96$, $p=0.580$), education ($\chi^2=4.08$, $p=0.849$), and employment status ($\chi^2=9.24$, $p=0.161$) were not significantly associated with VRQOL. These findings indicate that demographic characteristics alone may not adequately explain differences in perceived quality of life among individuals with visual impairment.

Similarly, no statistically significant association was identified between clinical characteristics and VRQOL. Comorbidity was not significantly associated with VRQOL ($\chi^2=1.08$, $p=0.781$), and clinical diagnosis/etiology also showed no significant association ($\chi^2=6.32$, $p=0.707$). Although congenital blindness was the most frequently reported cause of visual impairment (42%), followed by corneal conditions (28%), the type of clinical condition did not significantly influence the categorized VRQOL in this sample. These findings should be interpreted cautiously because the relatively small sample size and unequal distribution across clinical categories may have limited the statistical power to detect associations.

The absence of significant associations with demographic and clinical variables is consistent with the understanding that VRQOL is a multidimensional construct influenced by factors beyond demographic characteristics or diagnostic categories. Langelaan et al. (2007) reported that quality of life among individuals with visual impairment is closely related to functional limitations and psychosocial consequences of vision loss. Similarly, Brown et al. (2002) highlighted the importance of psychosocial factors in determining perceived quality of life. Therefore, factors such as severity and duration of visual loss, coping ability, psychological adaptation, social support, environmental accessibility, and availability of rehabilitation services may contribute substantially to VRQOL.

The findings have important implications for nursing and rehabilitation practice. Management of visual impairment should extend beyond clinical treatment and include interventions aimed at promoting independence and psychosocial well-being. Nurses can contribute through individualized health education, orientation and mobility training, promotion of self-care, psychological support, referral to rehabilitation services, and education regarding appropriate assistive technologies. Strengthening family and community support may also help individuals adapt to visual impairment and participate more effectively in social and occupational activities.

Overall, the present study demonstrates that a considerable proportion of individuals with visual impairment experience only fair VRQOL, despite the absence of statistically significant associations with the selected demographic and clinical variables. This highlights the need for a comprehensive, person-centered approach to

visual rehabilitation that addresses functional, psychological, social, and environmental needs rather than focusing solely on the underlying ocular condition.

LIMITATIONS

- ❖ The study was conducted among individuals with visual impairment in selected areas of Madurai.
- ❖ The sample size was relatively small.
- ❖ The study used a cross-sectional design, which does not establish causality.
- ❖ The study used convenience sampling, which may have reduced the representativeness of the sample.

RECOMMENDATIONS

- ❖ A similar study can be conducted with a large sample size for better generalization.
- ❖ Comparative studies can be conducted between rural and urban populations.
- ❖ Longitudinal studies may be undertaken to assess changes in VRQOL over time.
- ❖ A qualitative study can be done to understand the phenomena in-depth.

CONCLUSION

The present study concludes that visual impairment has a considerable impact on the functional and psychosocial well-being of individuals. In this study, the majority of participants (44%) had a fair level of vision-related quality of life, indicating moderate difficulties in performing daily activities and maintaining independence. However, no statistically significant association was found between VRQOL and the selected demographic or clinical variables. These findings highlight that quality of life among individuals with visual impairment is multifactorial and extends beyond clinical characteristics alone. Comprehensive rehabilitation, early identification, appropriate assistive technologies, psychological support, and family and community participation are essential to improve independence and well-being. Nurses have an important role in providing education, facilitating rehabilitation, promoting self-care, and advocating for accessible support services. A holistic, person-centered approach can contribute substantially to improving vision-related quality of life among individuals with visual impairment.

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