

OVERVIEW OF THE QUALITY OF LIFE OF POST-CATARACT PATIENTS AT THE SAMBALIUNG HEALTH CENTER IN 2025

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ABSTRACT

Background: Cataracts are a leading cause of global blindness that has a wide impact on the lives of sufferers. Cataract surgery is the main solution for restoring vision, but its success needs to be studied through post-action quality of life measurements. This study aims to describe the quality of life of patients after cataract surgery in the work area of the Sambaliung Health Center in 2025. Methods: This descriptive quantitative study with a cross-sectional design was carried out in December 2025. All post-cataract surgery patients in the work area of the Sambaliung Health Center were sampled (n = 37) through total sampling. Data were collected using the Indonesian version of NEI VFQ-25 which has been validated (Cronbach's $\alpha = 0.961$). Quality of life was categorized as Good (≥ 75), Adequate (60–74), and Poor (< 60), analyzed univariately using SPSS. Results: The majority of respondents were late elderly (56–65 years, 45.9%), female (51.4%), high school educated (32.4%), and self-employed (32.4%). A total of 28 respondents (75.7%) had a good quality of life, 6 respondents (16.2%) were adequate, and 3 respondents (8.1%) were poor. Perfect scores were achieved on the dependency and color vision subscales (100%), while social function and role difficulties recorded the highest proportion of poor quality of life (27.0% each). Conclusion: Cataract surgery has a real positive impact on most dimensions of patients' quality of life in primary health care. However, the psychosocial aspect especially social function and role difficulties still require special attention. Holistic nursing care, including patient education and family support, is essential to optimize comprehensive recovery after cataract surgery.

Keywords: Cataract, Quality of Life, NEI VFQ-25, Cataract Surgery, Health Center

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INTRODUCTION

Cataracts still persist as the most common cause of blindness in all parts of the world. Data World Health Organization (2023) shows that more than 94 million cases of blindness are associated with this condition, which contributes to about 45–51% of all global blindness cases. Future projections show that the burden of this disease will continue to increase as the proportion of the elderly population increases, while the inequality of access to treatment between low-middle-income countries and developed countries remains a major challenge (Jiang dkk., 2023). The 2019 Global Burden of Disease study noted an absolute increase in Disability Adjusted Life Years (DALYs) due to cataracts, although age-standard figures show a

downward trend thanks to the development of increasingly advanced surgical techniques (GBD Study 2019, 2019).

The prevalence of cataracts in Indonesia is still at a very worrying number. Riskesdas 2018 estimates that 1.8% of Indonesia's population suffers from cataracts, with around 1.6 million people experiencing blindness and about 80% of them being caused by cataracts (Kementerian Kesehatan Republik Indonesia, 2020). Indonesian Health Survey (SKI, 2023) recorded the proportion of cataract sufferers at 19.2% of the national population, with East Kalimantan Province recording the highest figure, at 46.5% (Kementerian Kesehatan Republik Indonesia, 2023). This high figure is inseparable from the geographical factors of the province located in the equatorial region with a very high intensity of ultraviolet radiation throughout the year (Lee dkk., 2020), plus the dominance of outdoor jobs such as in the mining, oil palm plantations, and fisheries sectors (Puspita & Haryono, 2022).

In Berau Regency, the community-based cataract early detection program held in 15 health centers throughout 2024 has succeeded in finding 210 cataract patients (Dinas Kesehatan Kabupaten Berau, 2024). In 2025, cross-sectoral cooperation between the Health Office, Baznas, PERDAMI, PT Berau Coal, and various social organizations produce about 103 cataract surgeries. Especially in Sambaliung District, 53 cases of cataracts were recorded, of which 40 have undergone surgery in the community health program on January 14, 2025 (UPT Puskesmas Sambaliung, 2025). The impact of vision impairment due to cataracts is not only fission, studies report that there are obstacles in daily activities, the appearance of symptoms of anxiety, depression, withdrawal from social life, and a decline in the economic productivity of sufferers (Blancafort Alias dkk., 2022; Mencucci dkk., 2023).

Cataract surgery is the main intervention option to restore sharp vision, but the measure of success is not enough to judge from clinical parameters alone. More meaningful evaluations need to involve the patient's perspective through quality-of-life measurements related to vision or Vision-Related Quality of Life (VRQoL). Instruments of National Eye Institute Visual Function Questionnaire-25 (NEI VFQ-25) is the most widely used internationally Patient-Reported Outcome measurement tool for this purpose; This questionnaire consists of 25 items covering 12 vision subscales (Goldstein dkk., 2022). Studies that specifically examine the quality of life of patients after cataract surgery in the context of primary health services are still very rare in Indonesia, most previous studies have been conducted in hospital settings (Kho, 2022; Lisnawati, 2020; Noviana dkk., 2024). This study intends to provide an overview of the quality of life of patients after cataract surgery at the Sambaliung Health Center UPT in 2025 as basic data that is useful for the development of eye health programs in primary health care facilities.

METHODS

Research Design

This research is a descriptive quantitative research with a cross-sectional design that will be carried out in December 2025 in the working area of the Sambaliung Health Center UPT, Sambaliung District, Berau Regency, East Kalimantan, Indonesia.

Population and Sample

The population as well as the sample of this study are all patients who have undergone cataract surgery in the working area of the Sambaliung Health Center in 2025, with a total of 37 people. Sampling was carried out using the total sampling technique so that all members of the population who met the inclusion criteria were included as respondents.

Inclusion criteria include: patients who have undergone cataract surgery with a postoperative period of ≥ 3 months at the time of data collection, are able to communicate and respond to questionnaires orally or in writing, and are willing to provide informed consent. Patients with severe postoperative complications (severe edema, severe infection, or posterior capsule opacification requiring immediate treatment) and patients with cognitive impairment or communication barriers were excluded from the study.

Data Collection

Data collection was carried out through direct visits to respondents' residences in the work area of the Sambaliung Health Center using a structured questionnaire. The instrument used is the Indonesian version of NEI VFQ-25 which has gone through a forward-backward translation validation process. The questionnaire assessed 12 subscales, namely: general health, general vision, eye pain, close activity, remote activity, social functioning, mental health, role difficulties, dependence, riding (which was adapted to 'riding a motorcycle or bicycle' for cultural context suitability), colour vision, and peripheral vision. Each item is converted to a score range of 0–100, where a higher score reflects a better vision-related quality of life. Based on Indonesia's validation study (Debora, 2021; Fatrin, 2020), quality of life is categorized into: Good (score ≥ 75), Fair (60–74), and Poor (< 60). The instrument has been shown to have excellent reliability (Cronbach's $\alpha = 0.961$) as well as adequate validity ($r = 0.426$ – 0.941 ; r table = 0.361 , $\alpha = 0.05$). The demographic variables collected included age group, gender, education level, and type of occupation.

Data Analysis

Data analysis was carried out in a descriptive univariate, including frequency and percentage distributions for all variables studied, using SPSS software.

Ethical Considerations

This research has received approval from the Health Research Ethics Committee of ITKES Wiyata Husada Samarinda, as well as operational permits from the Sambaliung Health Center UPT. Each respondent has given informed consent in writing before collecting data. The confidentiality and anonymity of all respondents' identities were strictly maintained during the course of the study.

RESULTS

This study included 37 post-cataract surgery patients in the work area of the Sambaliung Health Center UPT. An overview of the distribution of respondents' demographic characteristics is presented in Table 1.

Table 1 Frequency Distribution of Characteristics of Postoperative Cataract Patients (n = 37)

Characteristics of respondents	Frequency (n)	Percentage (%)
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Age Group		
Young adults (26–35 years old)	1	2,7
Middle adult (36–45 years)	2	5,4
Early elderly (46–55 years)	8	21,6
Late elderly (56–65 years old)	17	45,9
Senior (>65 years)	9	24,3
Gender		
Male	18	48,6
Women	19	51,4
Education Level		
No school	11	29,7
Elementary School (SD)	6	16,2
Junior High School (SMP)	6	16,2
Senior High School (SMA)	12	32,4
Higher Education (D3/S1)	2	5,4
Jobs		
Not working / housewife	10	27,0
Farmer	9	24,3
Labor	1	2,7
Self-employed	12	32,4
Civil Servants / Civil Servants	2	5,4
Others	3	8,1
Total	37	100,0

Source: Primary Data, 2026

Based on the table above, the largest group is in the late elderly (56–65 years) as many as 17 people (45.9%). Female respondents were slightly more (51.4%) than men. In terms of education, high school graduates dominated (32.4%), while 11 respondents (29.7%) had never received formal education. Most of the respondents (97.3%) were in the age range of the late elderly to the elderly, and the most common type of work was self-employed (32.4%).

The overall quality of life distribution is shown in Table 2.

Table 2 Frequency Distribution of Quality of Life in Postoperative Cataract Patients (n = 37)

Quality of Life Category	Frequency (n)	Percentage (%)
Good (score ≥75)	28	75,7
Adequate (score 60–74)	6	16,2
Less (score <60)	3	8,1

Total **37** **100,0**

Source: Primary Data, 2026

Table 2 shows that most of the respondents (28 people, 75.7%) were classified as having a good quality of life after cataract surgery. A total of 6 respondents (16.2%) were in the Adequate category, and 3 respondents (8.1%) were in the Less category. Details of quality of life per NEI VFQ-25 subscale are shown in Table 3.

Table 3 Quality of Life Distribution by NEI VFQ-25 Subscale (n = 37)

Subscal NEI VFQ-25	Baik n (%)	Cukup n (%)	Kurang n (%)
General Health	33 (89,2)	0 (0,0)	4 (10,8)
General Vision	31 (83,8)	6 (16,2)	0 (0,0)
Eye Pain	28 (75,7)	2 (5,4)	7 (18,9)
Nearby Activities	34 (91,9)	3 (8,1)	0 (0,0)
Remote Activities	23 (62,2)	9 (24,3)	5 (13,5)
Social Function	24 (64,9)	3 (8,1)	10 (27,0)
Mental Health	29 (78,4)	1 (2,7)	7 (18,9)
Role Difficulties	24 (64,9)	3 (8,1)	10 (27,0)
Dependency	37 (100,0)	0 (0,0)	0 (0,0)
Driving*	22 (59,5)	1 (2,7)	0 (0,0)
Color Vision	37 (100,0)	0 (0,0)	0 (0,0)
Peripheral Vision	30 (81,1)	0 (0,0)	7 (18,9)

**14 respondents were excluded from the driving subscale because they were not actively riding motorcycles or bicycles.*

Source: Primary Data, 2026

Table 3 shows that all respondents obtained perfect scores on the dependency and color vision subscale (100%). The subscale of close activity also received a very high proportion of good quality of life (91.9%), followed by general vision (83.8%) and peripheral vision (81.1%). On the other hand, the subscale of social function and role difficulty recorded the largest proportion of poor quality of life, at 27.0% each. The remote activity subscale showed the highest combined Sufficient and Less proportions of 37.8%.

DISCUSSION

The main findings of this study show that more than three-quarters of post-cataract surgery patients at the Sambaliung Health Center (75.7%) enjoy a relatively good quality of life based on the measurement of NEI VFQ-25. This figure is in line with the results of research by Noviana et al. (2024) who reported quality of life in both 77.7% of patients with an average score of 73.2, and Lisnawati (2020) who documented a significant spike in quality of life scores from 63.65 before surgery to 95.35 after surgery. Kho (2022) also recorded a similar increase from an average of 48.29 to 81.69 ($p = 0.001$). The findings further reinforce the view that cataract

surgery is not just a vision restoration procedure, but a far-reaching intervention that touches various aspects of patients' daily lives.

The dominance of the late elderly group (56–65 years, 45.9%) in this study is a picture consistent with the basis of degenerative cataract pathophysiology. Martyana (2024) suggests that the lens protein denaturation process doubles at the age of 65 and triples at the age of 77, while Irawan (2024) confirming that the prevalence of cataracts increased exponentially from 3.9% in the age group of 55–64 years to reach 92.6% in the age group of 80 years and above. Fairly balanced gender distribution (51,4% perempuan) in line with the findings Jiang dkk. (2023) in studies Global Burden of Disease which confirms that the age factor is much stronger as a predictor of cataracts compared to sex. The dominance of jobs in the informal sector the self-employed and farmers accounted for 56.7% of respondents is particularly relevant given the extremely high intensity of ultraviolet radiation exposure in Berau Regency, which is geographically located right on the equator, as confirmed by (Lee dkk., 2020) and (Puspita & Haryono, 2022).

The perfect quality of life (100%) on the dependency subscale reflects the patient's recovery of full independence postoperatively, an achievement that is very meaningful for the elderly group, as independence is closely related to self-esteem and psychological well-being (Haraldstad dkk., 2019). A perfect score on the color vision subscale signifies the successful replacement of cloudy lenses with clear intraocular lenses (IOLs), consistent with the validation findings of the Indonesian version of NEI VFQ-25 (Debora, 2021). The high proportion of good quality of life on the proximate activity subscale (91.9%) also proves the effectiveness of cataract surgery in restoring reading ability and other proximate activities, which is one of the most important aspects for postoperative patient satisfaction (Blancafort Alias dkk., 2022)

On the other hand, the subscale of social function and role difficulties recorded the largest proportion of poor quality of life (27.0% each). Respondents with Less quality of life on both subscales generally came from groups without formal education, were not working or housewives, and were elderly. (Mencucci dkk., 2023) explains that long-standing visual impairment can cause social isolation that is difficult to recover, and that reintegration into social life requires family support and a supportive environment. The high proportion of the combined quality of life of Sufficient and Deficient on the remote activity subscale (37.8%) may reflect the presence of residual refractive abnormalities or comorbidities in the eye that have not been fully corrected through surgery (Gregorio dkk., 2025). Meanwhile, 18.9% of respondents who still reported pain or discomfort in their eyes were likely to experience postoperative dry eye syndrome, a condition common in the elderly group (Błachnio dkk., 2024).

The above findings carry important implications for the development of nursing practices and primary health services. First, a thorough pre- and post-operative assessment is needed to identify patients who are at risk of suboptimal outcomes especially from the elderly, poorly educated, or out-of-work groups. Second, patient education programs need to be tailored to each individual's level of

health literacy, and include realistic information about recovery expectations and the importance of routine control. Third, community-based psychosocial support programs that involve the active role of families and health cadres need to be developed to facilitate social reintegration. Fourth, the regular integration of NEI VFQ-25 into the cataract surgery program evaluation system in primary health facilities is recommended as part of service quality improvement standards (Goldstein dkk., 2022; Martyana, 2024).

This research has several limitations that need to be acknowledged. Cross-sectional design limits the ability to draw causal conclusions between patient characteristics and quality of life outcomes. Implementation at a single facility with a relatively small sample count ($n = 37$) even though it is representative of the entire available population limits the generalization of the findings to other regions. The study also did not collect objective clinical parameters such as visual acuity or intraocular pressure, and did not assess comorbidities that could potentially affect quality of life. Follow-up research with longitudinal design, sampling from various facilities, and integration of objective clinical parameters is highly recommended to produce a more comprehensive understanding of the post-cataract surgery quality of life journey in East Kalimantan's primary health services.

CONCLUSION

This study concludes that the majority of post-cataract surgery patients at the Sambaliung Health Center in 2025 have a relatively good quality of life (75.7%). The dependency subscale and color vision achieved perfect recovery (100%), while the dimensions of social function and role difficulty still recorded a fairly substantial proportion of Less quality of life (27.0% each). Cataract surgery has been proven to provide multidimensional positive benefits to patients' quality of life. Nevertheless, a holistic approach to nursing which includes attention to psychosocial aspects, programmed patient education, and active family involvement is still indispensable to maximize overall well-being, especially in older groups with limited education and lack of social support. Further research is recommended to examine in more depth the factors that influence suboptimal psychosocial recovery, as well as evaluate the effectiveness of targeted nursing interventions in these vulnerable populations.

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