

Quality of Life Following Rhegmatogenous Retinal Detachment: A Systematic Review and Meta-Analysis

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Purpose: To synthesize and quantify quality of life (QoL) outcomes in patients with rhegmatogenous retinal detachment (RRD).

Methods: A PRISMA-guided search of Medline, Embase, and Scopus was conducted from database inception to February 8, 2025. Studies reporting QoL outcomes in RRD patients using validated instruments were included. A random-effects meta-analysis was performed and studies were critically appraised using the Joanna Briggs Institute tools.

Results: Twenty-four studies involving 1912 participants were included. Most studies were conducted in Europe, Asia, and few in North America. Eighteen studies (75%) utilized the Visual Function Questionnaire 25 (VFQ-25) to assess QoL, while 3 studies (13%) employed the Chinese version of the Low Vision Quality of Life Questionnaire (CLVQoL). Preoperative RRD patients had significantly lower QoL than healthy controls (SMD -5.58 [95% CI $-5.82, -5.33$]; $P < 0.01$; $I^2 = 84\%$). Higher QoL was noted in the RRD patients at 3 months following scleral buckle (SB) or pars plana vitrectomy (PPV) surgery (SMD 0.67 [95% CI $0.45, 0.88$]; $P = 0.10$; $I^2 = 64\%$). Lower QoL was found in RRD patients 6 months post-surgery compared to healthy controls (SMD -2.99 [95% CI $-5.06, -0.92$]; $P < 0.01$; $I^2 = 99\%$). Lower QoL was found in macula-off compared to macula-on RRD patients 12 months following surgery (SMD -1.08 [95% CI $-11.24, 9.07$]; $P < 0.01$; $I^2 = 99\%$). Higher QoL was found in patients that underwent SB compared to PPV (SMD 2.37 [95% CI $-1.66, 6.40$]; $P < 0.01$; $I^2 = 92\%$).

Conclusion: Despite surgical advances, RRD patients often experience ongoing challenges affecting recovery. Interventions to optimize care pathways are needed to improve QoL outcomes.

Keywords: humanistic burden, quality of life, health utilities, retinal detachment, systematic review, meta-analysis

Introduction

Retinal detachment (RD) is a sight-threatening ocular emergency that can progress to permanent vision loss if left untreated.¹ Rhegmatogenous retinal detachment (RRD), the most common subtype, is one of the leading emergencies worldwide, with an estimated annual incidence of 12.17 per 100,000 population expected to increase over time.² Although prompt surgical intervention can preserve vision, visual recovery after RD is frequently prolonged, and anatomical reattachment does not consistently result in meaningful functional improvement. Visual outcomes may remain suboptimal, particularly in macula-off cases, and reoperation rates remain clinically significant.³

Beyond anatomical reattachment, RD has substantial implications for patients' daily functioning and psychological well-being.⁴ Visual impairment, uncertainty regarding prognosis, and fear of recurrence may contribute to reduced quality of life (QoL) outcomes, even after technically successful surgery.⁵ Eye diseases have been noted to decrease QoL and increase rates of depression among patients.^{6,7} Psychological distress is a significant problem associated with RD, requiring particular attention. Furthermore, vision-related QoL (VRQoL) may remain impaired despite surgical repair, highlighting that visual acuity alone may not fully capture patient experience.

RD poses significant economic burden on healthcare systems.⁸ Current surgical options include scleral buckling (SB), pars plana vitrectomy (PPV), and pneumatic retinopexy (PR).⁹ In developing countries, RD surgery has been reported to account for up to 45.1% of all retinal procedures, placing substantial strain on limited resources.¹⁰ In developed countries such as the United States, activity-based cost analyses estimate average procedural costs for RRD repair to exceed \$6000 per case, reflecting the resource-intensive nature of management.¹¹ While RRD repair surgery has been shown to be cost-effective,¹² understanding its impact on patient-reported outcomes remains essential to evaluating overall treatment value.

Given the frequency of RD, prolonged recovery, variable outcomes, and psychological impact, evaluating QoL outcomes is critical. This study aimed to systematically assess and synthesize evidence on the QoL in patients with RRD. By consolidating available data, this review seeks to clarify the patient-reported burden of RRD and inform strategies to optimize care pathways and improve long-term outcomes.

Methods

Registration and Reporting

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Study protocol details were prospectively registered on PROSPERO (CRD42023446301). Due to the study design, an ethics approval from our Institutional Review Board was not required.

Search Strategy

Systematic searches of the literature were conducted with the help of an experienced librarian using three databases, including MedLine, Embase, and Scopus. The search was conducted from database inception to June 26, 2023, and updated on February 8, 2025. The search strategy comprised of a comprehensive set of search terms capturing RD combined with QoL search filters obtained from the Canadian Agency for Drugs and Technologies in Health (CADTH).^{13,14} Covidence software (Melbourne, Australia) was used to manage screening and eligibility status. The full search strategy is included in [Appendix 1](#).

Data Collection and Extraction

Screening of abstracts and titles and subsequent full-texts was conducted by two independent reviewers (A.S., T.F). Disagreements were resolved through discussion. Data extraction was performed by one reviewer, with 10% of extractions verified with a second reviewer to ensure consistency and uniformity of extracted data. Key data included geographic region, analysis period, study design, patient population, sample size, QoL instruments used, and the composite and domain (subscale) scores reported for each instrument.

Inclusion and Exclusion Criteria

Included studies met all of the following inclusion criteria: (1) original peer-reviewed articles that measured QoL outcomes in patients with a diagnosis of RD; (2) at least 50% of participants of a group or subgroup that reported QoL had RD; (3) observational or experimental study designs, including cohort, cross-sectional, case-control, registry-based studies, surveys, or randomized controlled trials, as defined by the Oxford Center for Evidence-based Medicine.¹⁵ Studies were excluded if they were not published in English or if they were abstracts, reviews, systematic reviews, and meta-analyses. A summary of the Population, Intervention, Comparison, Outcomes and Study (PICOS) criteria is presented in [Table 1](#).

Primary Outcomes

The primary outcome of this study was the association between RD and QoL outcomes as measured by health-related QoL (HRQoL) instruments, such as the Visual Function Questionnaire (VFQ-25) and the Chinese version of the Low Vision Quality of Life Questionnaire (CLVQOL). The study aimed to conduct meta-analyses on QoL instrument scores of RD patients and report mean differences against control subjects without RD.

Table 1 PICOS Criteria

Criteria	Details
Population	Age: any Sex: any Race: any Disease: patients with a diagnosis of RD or RRD
Interventions	Studies assessing the overall quality of life or visual function of patients with RRD or RD with or without the impact of an intervention
Comparators	No restriction on comparators
Outcomes	Visual function, quality of life
Study design	Cohort studies Cross-sectional studies Case-control Registry/database studies Survey studies Prospective or retrospective studies Randomized controlled trials
Limits	Studies published from inception to February 8, 2025 English language

Abbreviations: RD, retinal detachment; RRD, rhegmatogenous retinal detachment.

Statistical Analysis

We used random-effects analysis (Bayesian framework) for the meta-analysis to estimate the mean effect size and variability across studies. Given the different QoL measures collected in the systematic review, a standardized mean was calculated to compare the studies. The standard deviation (SD) was derived for studies reporting interquartile ranges (IQR). For the Bayesian model, a global intercept plus a local intercept (random effect) model were estimated. In addition, the comparator was included as a fixed effect.

Studies were pooled using the DerSimonian-Laird random-effects model, with restricted maximum likelihood estimator. Heterogeneity was assessed with the I^2 and tau² statistics. Heterogeneity is considered low when I^2 is less than 25%, moderate when I^2 is between 25% and 50%, and high when I^2 is over 50%. Tau estimates the standard deviation of the distribution of true effect sizes of the included studies. All analyses were conducted using R, version 4.3.1, with the package meta.

Risk of Bias and Quality of Evidence

Risk of Bias (ROB) and quality of studies were assessed using the Joanna Briggs Institute Critical Appraisal Tools (Faculty of Health and Medical Sciences at the University of Adelaide, South Australia).¹⁶ ROB of studies were assessed by one reviewer with a 10% verification by a second, independent reviewer to ensure consistency between assessors. Studies were considered high, moderate and low ROB if <49%, 50–79%, and >80% of questions were scored yes, respectively.¹⁷

Results

The search retrieved a total of 1803 unique records that underwent title and abstract screening, and subsequently 138 studies underwent full-text screening (Figure 1). Of these studies, 114 were excluded, for reasons such as wrong patient populations (n=64), wrong study designs (n=19), conference abstracts (n=17), non-English (n=8), and wrong outcomes (n=6). A total of 24 studies were included in the review (Figure S1).^{5,18–40}

Twelve studies were conducted in Europe,^{18–20,24,26,29,31–36,40} 8 studies were conducted in Asia,^{5,21,22,25,30,37–39} and 3 studies were conducted in North America.^{23,27,28} Twelve studies were prospective,^{22,26,27,29–35,37,38} 6 were cross-

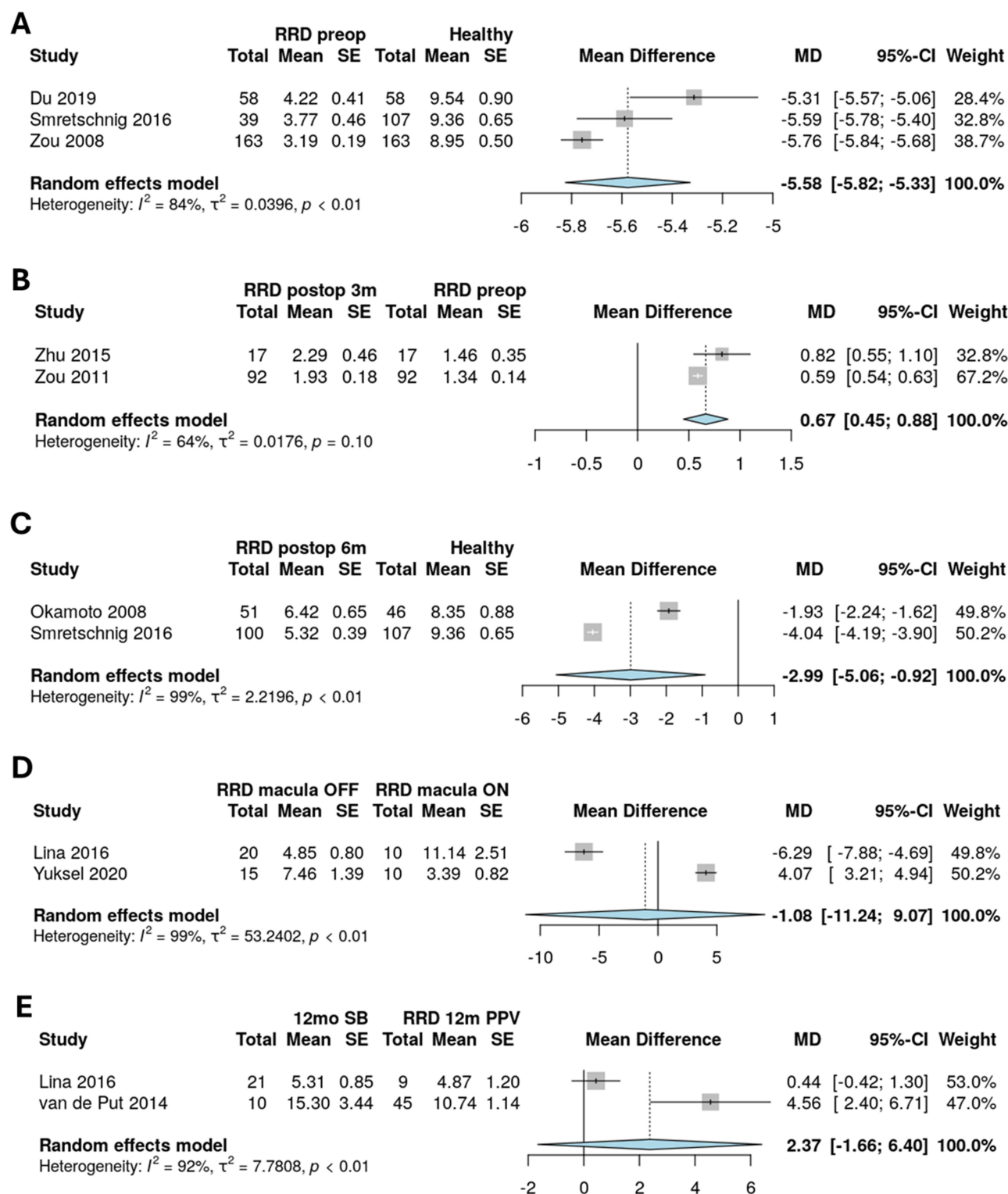


Figure 1 Forest plot of mean differences in standardized HRQoL scores among: (A) preoperative RRD vs healthy controls; (B) preoperative RRD vs 3 month following RRD repair (with SB or PPV); (C) 6 months following RRD repair (with SB or PPB) vs healthy controls; (D) 12 month postoperative RRD patients with macula off vs macula on; (E) 12 months following PPV vs SB.

sectional,^{5,20,21,23,24,39} and 2 were retrospective.^{36,40} Two studies were a post-RCT analysis,^{18,19} 1 was a non-randomized clinical trial,²⁵ and 1 was a post hoc analysis.²⁸ The studies spanned from 1993 to 2024. Study size ranged from 17 to 214 participants across the studies, with a total of 1912 participants. A summary of study characteristics is available in [Table 1](#) and a summary of VFQ-25 component and composite scores is available in [Table S1](#).

Eighteen studies assessed QoL using the Visual Function Questionnaire 25 (VFQ-25), which evaluates domains such as general vision, near and distance activities, social functioning, mental health, role difficulties, and dependency.^{5,18–23,25,27–31,33–36,40} Three studies used the CLVQoL, which assesses visual symptoms, mobility, psychological adjustment, and daily functioning.^{37–39} One study used a metamorphopsia questionnaire,³² and 1 study used a non-validated telephone interview questionnaire ([Table 2](#)).²⁴ A list of QoL instruments used by included studies is presented in [Table 3](#).

Retinal Detachment Compared to Healthy Controls

Four studies compared patients with RD to healthy controls.^{21,30,33,36} Preoperative RD patients with 45% having macula-on had significantly worse QoL than healthy controls.²¹ RD patients who underwent SB or PPV had worse QoL at 6 months and 12 months with around 61–65% of patients having macula-on.^{30,33,36} One study reported that patients who underwent PPV, with or without concurrent cataract surgery, had worse QoL at 12 months postoperatively compared with healthy controls.³⁶ In this cohort, approximately 40% of patients had macula-on RRD.³⁶ These findings suggest that QoL impairment persists even after surgical repair and may not fully normalize despite anatomical success.

Surgical Procedures

One study followed patients for up to 8 years after surgery and found higher QoL outcomes in those who underwent PR compared with SB.²³ Two studies compared QoL in patients with RRD undergoing SB or PPV.^{25,34} Lina et al²⁵ compared QoL in RRD patients with macula on or off who underwent SB or PPV. Slightly higher QoL was noted in RRD patients with SB compared with PPV at 12 months postoperatively.²⁵ Van de put et al³⁴ also found higher QoL in RRD patients 12 months following SB than PPV, with all patients having macula off. These findings suggest that surgical modality may influence patient-reported outcomes, although differences were modest.

Surgical Techniques

Similar QoL outcomes were found 6 months following standard surgical repair of PPV with face-down position compared with support-the-break position.¹⁸ Slightly worse QoL outcomes were noted in RD patients with blind eye with long-term phthisis bulbi compared with silicone oil.²⁰ Overall, positioning strategies did not appear to substantially influence QoL outcomes.

Comorbidities

A study comparing QoL outcomes in RRD patients with and without post-traumatic stress disorder (PTSD) found significantly lower QoL outcomes in postoperative RRD patients with PTSD.²² One study reported a high prevalence of postoperative metamorphopsia in macula-off RRD patients.³⁵ Patients with metamorphopsia demonstrated worse visual function and slightly lower VRQoL scores compared to those without metamorphopsia, although the difference in QoL did not reach statistical significance.³⁵ These findings suggest that both baseline macular status and surgical approach influence recovery trajectories.

Quality of Life Changes Through Time

Four studies compared QoL of RRD patients through a follow up time period.^{27,28,31,33} Marquez-Vergara et al²⁷ found higher QoL in RRD patients at 3 months following PPV compared with 1 month of follow up. Three studies compared QoL outcomes in RRD patients preoperatively and postoperatively.^{28,31,33} Muni et al²⁸ compared QoL outcomes following PPV and PR in RRD patients with 50% macula on at 3-, 6-, and 12-month postoperative follow-up. Patients who underwent PR experienced slightly improved QoL from 3 months to 12 months, whereas patients who underwent PPV experienced more pronounced improvement.²⁸ Potic et al³¹ compared QoL of RRD patients with macula-on and macula-off at preoperative, 1-month

Table 2 Summary of Included Studies

Study	Geographic Region	Analysis Period	Study Design	Patient Population	Sample Size	QoL Scales Used
Casswell 2020 ¹⁸	UK	2016-2018	Post RD RCT	RRD patients undergoing vitrectomy and gas tamponade	120	VFQ-25
Casswell 2022 ¹⁹	UK	2016-2018	Post hoc analysis of post RD RCT	RRD patients undergoing vitrectomy and gas tamponade	214	VFQ-25
Doyle 2018 ²⁰	UK	Medisoft inception-2017	Cross-sectional study	Patients with long-term silicone oil in situ for more than 6 months and patients with documented phthisical eye but not silicone oil in situ	30	VFQ-25
Du 2019 ²¹	China	2015-2016	Cross-sectional study	RRD patients	58 and 58 healthy controls	VFQ-25
Fabian 2013 ²²	Israel	2004-2009	Prospective study	RRD patients who underwent surgery	35	VFQ-25
Gauthier 2017 ²³	USA	1993-2013	Cross-sectional study	RRD patients who underwent scleral buckle or pneumatic retinopexy within 8 years after surgery	59	VFQ-25
Iannetta 2024 ⁴⁰	Italy	2021-2023	Retrospective study	RRD patients treated with PR	76	VFQ-25
Lesnori 2005 ²⁴	Italy	1997-1999	Cross-sectional study	Recurrent RRD patients with PVR after multiple surgery	62	Non-validated telephone interview questionnaire
Lina 2016 ²⁵	China	2008-2009	Non-randomized clinical trial	RRD patients who had scleral buckle surgery or vitrectomy	30	VFQ-25
Machairoudia 2023 ²⁶	Greece	2019-2021	Prospective non-randomized study	Unilateral primary RRD patients treated with PPV and gas tamponade	48	VFQ-25
Marquez-Vergara 2023 ²⁷	Mexico	2019	Prospective study	RRD patients undergoing surgery	23	VFQ-25
Muni 2020 ²⁸	Canada	2012-2017	Post hoc exploratory analysis	RRD patients undergoing PR or PPV surgery	160	VFQ-25
Ng 2020 ²⁹	Netherlands	2017-2019	Prospective observational study	RRD patients over age 18	48	VFQ-25

Okamoto 2008 ³⁰	Japan	2006-2007	Prospective study	RRD patients treated with scleral buckling or PPV	51 and 46 healthy controls	VFQ-25
Okamoto 2010 ⁵	Japan	2005-2007	Cross-sectional study	RRD patients undergoing PPV	55	VFQ-25
Potic 2021 ³¹	Switzerland	2015-2017	Observational, prospective, single-center cohort study	RRD patients over 18	47	VFQ-25
Saleh 2018 ³²	France	2014	Observational, prospective study	RRD patients post-surgery	58	Metamorphopsia questionnaire
Smretschnig 2016 ³³	Austria	2012	Prospective, consecutive, comparative case series	RRD patients undergoing surgery (scleral buckling or PPV)	100 and 107 healthy controls	VFQ-25
Van de Put 2014 ³⁴	Netherlands	2007-2010	Prospective study	RRD patients macula-off undergoing scleral buckle or PPV	55	VFQ-25
Van de Put 2015 ³⁵	Netherlands	2007-2010	Prospective study	RRD patients macula-off	45	VFQ-25
Yuksel 2020 ³⁶	Turkey	2013-2015	Retrospective, non-randomized clinical trial	RRD patients undergoing PPV	25 and 30 healthy controls	VFQ-25
Zhu 2015 ³⁷	China	2005-2007	Prospective case series	RRD patients post-cataract surgery	17	CLVQoL
Zou 2008 ³⁹	China	NR	Cross-sectional study	RRD patients	163	CLVQoL
Zou 2011 ³⁸	China	2004-2006	Prospective case series	RRD patients post-surgery	92	CLVQoL

Abbreviations: CLVQoL, Chinese version of the Low Vision Quality of Life Questionnaire; PPV, pars plana vitrectomy; PR, pneumatic retinopexy; PVR, proliferative vitreoretinopathy; RD, retinal detachment; RRD, rhegmatogenous retinal detachment; VFQ-25, Visual Function Questionnaire.

Table 3 Quality of Life Scales Included in the Systematic Review

Quality of Life Scale	Number of Studies (%)	References
Visual Function Questionnaire 25 (VFQ-25)	17 (74%)	Casswell et al 2020; ¹⁸ Casswell et al 2022; ¹⁹ Doyle et al 2018; ²⁰ Du et al 2019; ²¹ Fabian et al 2013; ²² Gauthier et al 2017; ²³ Iannetta et al 2024; ⁴⁰ Lina et al 2016; ²⁵ Marquez-Vergara et al 2023; ²⁷ Muni et al 2020; ²⁸ Ng et al 2020; ²⁹ Okamoto et al 2008; ³⁰ Okamoto et al 2010; ⁵ Potic et al 2021; ³¹ Smretschnig et al 2016; ³³ van de Put et al 2014; ³⁴ van de Put et al 2015; ³⁵ Yuksel et al 2020 ³⁶
Chinese version of Low Vision Quality-of-Life Questionnaire (CLVQOL)	3 (13%)	Zhu et al 2015; ³⁷ Zou et al 2008; ³⁹ Zou et al 2011 ³⁸
Metamorphopsia questionnaire	1 (4%)	Saleh et al 2018 ³²
Non-validated telephone interview questionnaire	1 (4%)	Lesnoni et al 2005 ²⁴

postoperative, and 3-month postoperative follow-up. Patients with macula-on had higher QoL at preoperative and both postoperative visits compared with patients with macula-off.³¹ Preoperative RRD patients with macula on saw very slight improvement from preoperative stage to 3-months postoperative stages, whereas RRD preop with macula-off saw significantly increased QoL, however, final QoL was higher in patients with macula-on overall.³¹

Meta-Analysis

A meta-analysis was conducted encompassing 8 studies ranging from 17 to 163 participants.^{21,25,30,33,34,36,37,39}

Three studies comparing 260 participants in the preoperative RRD group with 328 participants in the healthy control group found significantly lower QoL outcomes in the preoperative RRD group (SMD -5.58 [95% CI -5.82, -5.33]) (Figure 1A) with significant heterogeneity detected among the studies ($I^2 = 84\%$; $P < 0.01$), confirming substantial impairment prior to surgery.^{21,33,39}

Two studies comparing preoperative RRD (109 participants) with postoperative RRD 3 months following SB or PPV surgery (109 participants) found significant higher QoL in the postoperative RRD group (SMD 0.67 [95% CI 0.45, 0.88]) with non-significant heterogeneity among the groups ($I^2 = 64\%$; $P = 0.10$), indicating early recovery following surgery (Figure 1B).^{37,39}

Two studies comparing RRD participants 6 months following SB or PPV surgery (151 participants) compared with healthy controls (153 participants) found significantly lower QoL than healthy controls (SMD -2.99 [95% CI -5.06, -0.92]; $P < 0.01$) with significant heterogeneity among the groups ($I^2 = 99\%$), suggesting incomplete recovery (Figure 1C).^{30,33}

Two studies comparing postoperative macula on (20 participants) with macula off in RRD patients (35 participants) at 12 months following SB or PPV found lower QoL outcomes in participants with macula off with no significant effect (SMD -1.08 [95% CI -11.24, 9.07]; $p < 0.01$) with significant heterogeneity among the groups ($I^2 = 99\%$) (Figure 1D).^{25,36}

Two studies comparing RRD patients at 12 months following PPV with SB found higher QoL outcomes in participants that underwent SB with no significant difference (SMD 2.37 [95% CI -1.66, 6.40]; $P < 0.01$) with no significant heterogeneity ($I^2 = 92\%$) (Figure 1E).^{25,34}

Risk of Bias

A summary of quality assessment results for included studies in this review is available in Appendix 2. Overall, the included studies were of high quality, with 15 studies having low risk of bias, 5 having moderate risk of bias, and 4 having high risk of bias. Cross-sectional and cohort studies often had inconsistent reporting of identification of confounding factors (32%), strategies to deal with confounding factors (16%). Strategies to address incomplete follow up were inadequately addressed (15%) in cross-sectional studies.

Discussion

The present systematic review and meta-analysis presents the QoL of patients with RRD and after RRD surgical repair. A significant proportion of these studies were conducted in Europe, followed by Asia and North America, comprising of prospective, cross-sectional, and retrospective designs, as well as clinical trials and post-hoc analyses, demonstrating a broad geographic and methodological scope.

This study found significantly lower QoL in preoperative RRD patients compared to healthy controls with variable results across studies. When comparing surgical methods, patients who underwent SB had marginally higher QoL scores than those who had PPV. This difference may be a reflection of variations in postoperative recovery profiles. PPV has been associated with cataract progression and slower visual rehabilitation, which may negatively influence patient-reported outcomes in the months following surgery.⁴¹ In contrast, SB avoids intraocular manipulation and may preserve lens status, potentially contributing to better perceived visual function in the short to immediate term.⁴²

Slightly higher but non-significant QoL was found in RRD patients 3 months following surgical repair (PPV or SB) compared with preoperative patients. However, at 6 months post-surgery, healthy controls still had significantly higher QoL scores, suggesting incomplete recovery despite surgical intervention. Differences between macula-on and macula-off RRD at 12 months were not statistically significant and were based on small sample sizes. One possible explanation is that patients with macula-off RRD often present with poorer baseline vision and may perceive greater relative improvement following surgical repair, which could influence postoperative QoL reporting despite objectively worse visual outcomes. Although surgical interventions improve VRQoL, they do not consistently restore QoL to levels comparable to healthy individuals. Established predictors of visual recovery, including preoperative visual acuity, duration of detachment, and age, may further contribute to variability in patient-reported outcomes.^{43,44} However, the included studies did not consistently report QoL outcomes stratified by these factors, precluding conclusions regarding their direct impact on long-term QoL.

Our study found that RRD patients who underwent SB reported higher QoL compared to PPV patients, particularly in macula-off circumstances, which warrants further exploration. This may be explained by differences in surgical outcomes, complication rates, patient perceptions of the procedures, or a combination of multiple factors. Additionally, patients with macula-off RRD often present with poorer preoperative vision, and postoperative visual improvement may be more pronounced, potentially leading to greater perceived gains in QoL. PPV is associated with a slow visual recovery.⁴⁵ Current literature demonstrates mixed results on the superiority of one intervention over another, suggesting alternative or further comparisons. This aligns with a recent meta-analysis comparing QoL after SB, PPV and PR, which found higher QoL outcomes with SB than PPV and no significant difference between PR and PPV.⁴⁶

Strengths and Limitations

Our meta-analysis suggested a trend toward lower QoL in macula-off RRD compared with macula-on RRD. However, this difference did not reach statistical significance and was based on small sample sizes. One study noted higher QoL scores in macula-off RD patients, which may be reflected by small sample sizes. Other explanations may include greater perceived benefit due to greater postoperative visual gains in macula-off patients, who begin with poorer baseline vision. Additionally, psychological factors like gratitude are inadequately assessed in current QoL instruments, potentially overlooking emotional and subjective dimensions of QoL that can significantly influence patient-reported outcomes.

Our study presented with some limitations. Our meta-analysis did not include QoL outcomes associated with PR, which is a significant intervention in repairing RRD. Recovery times and complication rates were not adequately accounted for in QoL studies. Variability in study designs, sample sizes, and geographic locations introduces heterogeneity, which may have impacted the generalizability of the results. Most studies were from Europe and Asia, with fewer studies from North America, which may introduce geographical bias. Studies primarily used the VFQ-25 scale to assess QoL outcomes, which may underestimate other aspects of humanistic burden. Studies did not report on the caregiver burden of RRD, which may undercut the true challenges faced by individuals as a result of RRD. Given that different QoL measures were collected in this study, a standardized mean was calculated to make the studies comparable. Moreover, the standard deviation was derived for studies reporting IQR. Finally, it is important to note that a bias exists due to the fact that no baseline QoL adjustment was done.

Future Directions

Long-term studies are warranted to comprehensively evaluate the effects of RRD and its treatments on patient well-being, considering the potential for delayed complications and ongoing visual and psychological challenges. Future large-scale, multicenter studies with diverse geographic populations and extended follow-up periods should be conducted to account for long-term QoL outcomes globally. Incorporating a wider range of QoL assessment tools other than the VFQ-25 and CLVQoL may provide further insight into the burden of RRD on an individual and their caregiver. Future studies should prioritize rigorous identification and reporting of confounding factors, as well as the development and implementation of robust strategies to address them. Additionally, identifying strategies to manage incomplete follow-up in cross-sectional studies will improve reliability and validity of QoL assessments.

Conclusion

This systematic review and meta-analysis demonstrates that RRD is associated with substantial impairment in quality of life both before and after surgical repair. Although QoL improves following surgery, patient-reported outcomes often remain lower than those of healthy controls at 6 months, indicating incomplete recovery despite anatomical success. Patients with macula-on RRD did not consistently report superior postoperative QoL, which may reflect relatively preserved baseline vision and smaller perceived visual gains following surgery. Across studies, impairments were most frequently observed in domains related to general vision, near and distance activities, role difficulties, and mental health, highlighting the multidimensional impact of RRD beyond visual acuity alone. These findings highlight importance of incorporating patient-reported outcomes into clinical decision-making and emphasize the need for patient-centered strategies to optimize both functional and psychological recovery.

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Disclosure

The authors report no conflicts of interest in this work.

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