

# QUALITY OF LIFE FOR GLAUCOMA PATIENTS



What reduces the quality of life of treated glaucoma patients, and what worries them?

BY STEPHEN WALTERS, MD; AND LAMA AL-ASWAD, MD, MPH

## FACTORS ASSOCIATED WITH HEALTH-RELATED QUALITY OF LIFE IN MEDICALLY AND SURGICALLY TREATED PATIENTS WITH GLAUCOMA

Khanna CL, Leske DA, Holmes JM<sup>1</sup>

### ABSTRACT SUMMARY

In a prospective cohort study at a tertiary referral glaucoma practice, investigators sought to determine factors associated with reduced health-related quality of life (HRQOL) in medically and surgically treated patients with glaucoma. The study enrolled 160 patients, all of whom completed three HRQOL questionnaires: the 25-item National Eye Institute Visual Function Questionnaire, the Adult Strabismus-20 questionnaire (AS-20), and the Diplopia Questionnaire. The mean age of participants was 69 years, and 63% were female. In terms of treatment, 73 patients were managed medically, and 87 had undergone surgery, either trabeculectomy (n = 51) or placement of a glaucoma drainage device (GDD; n = 36).

In looking for associations with HRQOL, the researchers considered age, sex, mean deviation (MD) on visual field (VF) testing for the better-seeing and worse-seeing eyes, treatment modality, visual acuity for the better-seeing and worse-seeing eyes, and diplopia. Their findings support previous assertions that reduced HRQOL is common in both medically and surgically treated glaucoma patients. In the

study, reduced HRQOL was associated with worse diplopia, lower VF MD in either eye, poor visual acuity in either eye, and younger age. Patients who had received a GDD had a poorer HRQOL on AS-20 domains than those who had undergone trabeculectomy and those who were on medical treatment.

Given these findings, the investigators recommended that patients with glaucoma be assessed for diplopia before and after surgery. In addition, the researchers stated that the potential psychosocial effects of GDDs should be discussed when glaucoma patients are counseled.

### DISCUSSION

#### Why might GDDs be associated with reduced HRQOL, and how can surgeons use this information in practice?

As reported in earlier studies, diplopia and strabismus related to GDDs can profoundly affect patients' HRQOL. The study by Khanna and colleagues also indicates that patients are conscious of the device, as evidenced by the specific AS-20 subscales of self-perception and interactions showing reduced HRQOL in patients with GDDs compared with those in the medical treatment and trabeculectomy arms. The investigators suggested that patients either physically feel or have a psychological awareness of the GDD.

Khanna and colleagues recommended that doctors be conscious of potential contributors to poor HRQOL and openly address them with patients

while discussing surgical options. Specifics of GDDs such as patching materials (translucent vs opaque) also merit consideration because they may affect patients' HRQOL.

#### How does this study increase understanding about the impact of glaucoma treatment on HRQOL?

In 2017, in collaboration with Sun, Khanna and colleagues reported a high prevalence of diplopia in patients with glaucoma.<sup>2</sup> Including the AS-20 questionnaire in the current study

## STUDY IN BRIEF

- The results of a single-center prospective cohort study support the idea that reduced health-related quality of life (HRQOL) is common in both medically and surgically treated glaucoma patients. Previous glaucoma drainage device surgery in particular was associated with reduced HRQOL when compared with trabeculectomy or medical therapy.

## WHY IT MATTERS

- Glaucoma is a chronic disease, and characteristics of both the disease and the affected patient can influence his or her HRQOL. It is important for clinicians to consider how glaucoma affects their patients. The goals of care should take HRQOL and associated factors into account, not just traditional disease markers such as stable IOP and perimetry. Glaucoma drainage devices in particular may result in reduced HRQOL, something that should be factored into treatment decisions and included in the discussion of surgical options with patients.

allowed the researchers to explore this matter further. The Tube Versus Trabeculectomy (TVT) study also addressed HRQOL, but Khanna and

colleagues included patients who had received multiple GDDs, scleral buckling procedures, and penetrating keratoplasty. Unlike the TVT study, the

study by Khanna and colleagues also included patients treated medically, possibly providing more insight across the spectrum of glaucoma.

## GLAUCOMA PATIENT-REPORTED CONCERNS AND ASSOCIATED FACTORS

Mogil RS, Tirsi A, Lee JM, et al<sup>3</sup>

### ABSTRACT SUMMARY

In a prospective, cross-sectional, observational study conducted at a tertiary referral practice, investigators assessed concerns expressed by glaucoma patients and sought to identify demographic and clinical factors affecting those concerns. The researchers created a questionnaire that addressed the concerns. Two trained staff members administered the questionnaire to consecutive glaucoma patients with varying stages of glaucomatous damage and a range of optic disc and VF abnormalities.

The concerns evaluated related to five areas: general eyesight, visual symptoms, activities, socioeconomic factors, and ocular symptoms. The respondents' severity of concern was scored on a scale of 0 to 5 in order of increasing severity. Respondents' age, sex, IOP, VF MD, number of glaucoma medications, history of glaucoma surgery, and employment status were recorded.

Investigators analyzed the results for 152 patients. Severity of concern was greatest for general eyesight (2.92/5.00) and visual symptoms (2.78/5.00), followed by activities (2.20/5.00), socioeconomic factors (2.13/5.00), and ocular symptoms (1.69/5.00;  $P < .001$ ). Patient concern about visual symptoms correlated with the VF MD of both the better-seeing eye ( $r = -0.258$ ;  $P = .001$ ) and the worse-seeing eye ( $r = -0.233$ ;  $P = .004$ ). Concern about activities correlated with history of glaucoma surgery ( $r = 0.148$ ;  $P = .023$ ) and VF MD of the better-seeing eye ( $r = -0.284$ ;  $P < .001$ ) and the worse-seeing eye ( $r = -0.295$ ;  $P < .001$ ). Concern about socioeconomic factors

## STUDY IN BRIEF

▶ Investigators created a questionnaire to assess the character and degree of glaucoma patients' concerns related to quality of life. Certain concerns were more intense with more severe visual field loss, a history of glaucoma surgery, or younger age.

### WHY IT MATTERS

▶ Glaucoma management is becoming more patient-centered and is shifting to include functional factors as a guide for treatment and for measuring outcomes. Increased awareness of how glaucoma reduces patients' quality of life and of which factors concern patients the most will improve eye care providers' ability to customize treatment. Greater awareness can also strengthen the doctor-patient relationship and potentially improve adherence to prescribed medical therapy.

correlated with VF MD of the better-seeing eye ( $r = -0.245$ ;  $P = .003$ ) and age ( $r = -0.260$ ;  $P = .001$ ).

The investigators concluded that patients were moderately concerned about their general eyesight and visual symptoms, somewhat concerned about activities and socioeconomic factors, and slightly concerned about ocular symptoms.

### DISCUSSION

#### How was the questionnaire created?

The researchers identified validated vision-related questionnaires used in previous studies of quality of life (QOL). To further assess the character and degree of glaucoma patients' concerns, the investigators reviewed questionnaires, eliminated irrelevant

and overlapping items, grouped items into similar domains, and reorganized the domains for easy use. Each item was adapted to measure the degree of patient concern. The final questionnaire consisted of five domains that included the concerns listed earlier.

#### How could this questionnaire be used in the future?

It is clear from other studies that QOL is affected by glaucoma and its management, but it is important to consider which factors commonly found to reduce QOL worry these patients. Future QOL questionnaires could incorporate the type and severity of patient concerns in order to better understand the patients being treated. ■

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