
EDITORIAL

ARE WE READY TO ASSESS QUALITY OF LIFE ROUTINELY IN OUR GLAUCOMA PATIENTS?

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Despite advances in glaucoma therapy over the past two decades, the global burden of glaucoma is high and will continue to rise. By 2020, 79.6 million people worldwide will have either open-angle or angle-closure glaucoma, of whom 11.2 million will be bilaterally blind (1). Visual loss is the main cause of morbidity relating to glaucoma, however other factors such as ocular surface discomfort, time-consuming and costly medical and surgical treatments contribute to the overall burden of disease. In addition glaucoma, especially severe glaucoma, affects patients frequently with other debilitating chronic medical conditions, psychological and social constraints that influence the perception of their visual morbidity.

All of these factors interact in a complex manner and can be reflected in and assessed by a quality of life (QoL) questionnaire. Although clinicians often focus on glaucomatous optic neuropathy with serial visual field testing and nerve fibre layer analysis as measures of success or failure of glaucoma therapy, these are limited tools when evaluating the overall impact of glaucoma on a patient.

Assessment of QoL is part of general ophthalmic practice, and is performed routinely through thorough medical history taking. QoL concerns are frequently considered when making clinical

decisions, such as determining a patient's suitability for glaucoma surgery, or whether a regular regime of topical medications is feasible. Formal QoL evaluation using a questionnaire allows more sensitive and reproducible results.

Glaucoma QoL questionnaires, especially the Glaucoma Quality of Life-15 (GQL-15), are highly correlated with visual indices and visual performance, and can be used quantitatively to assess patient satisfaction or to detect increasing visual burden (2). QoL assessment can assist the clinician and patient to make difficult clinical choices, as well as to individualise therapy. It allows the clinician to assess the impact of glaucoma on the patient's daily life and then guide appropriate interventions, including modification of the patient's home environment to minimise obstacles, improve lighting, or to receive appropriate assistance. As more information is learnt from QoL analysis in severe glaucoma patients, it can be used to inform newly diagnosed patients about the potential impact of glaucoma on their lives in a meaningful way.

Several QoL measures have been used for glaucoma patients, including general medical surveys (eg the Sickness Impact Profile) (3), vision-specific surveys (eg the Activities of Daily Vision Scale, and the National Eye Institute Visual Function Questionnaire) (4, 5), and glaucoma specific surveys (eg the Glaucoma Symptom Scale, and the GQL-15) (6, 7). General medical surveys are relatively insensitive for glaucoma, especially early glaucoma that is usually clinically silent and detected by screening. Glaucoma-specific questionnaires are better discriminators between controls and glaucoma patients

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than general vision-specific questionnaires, and focus on tasks related to contrast discrimination, dark adaptation and peripheral vision. All are subjective evaluations, and as such are liable to the inherent weaknesses of self-reported assessments, including recall bias. Two patients with the same objective degree of visual loss often report different QoL scores. In addition, different personality traits can influence responses to QoL questionnaires (11). No test is ideal, and most used in clinical practice are relatively easy and quick to perform, and focus on objective self-evaluation of visual ability. More complex testing evaluates the relative importance patients place on their vision. These include utility-based approaches (such as asking patients how much lifespan they would trade for perfect vision) (8) and conjoint analysis (in which patients have to rank various attributes eg peripheral vision, darkness vision and glare in terms of which matter most to them) (9). These can sometimes be time-consuming and demanding for patients.

The GQL-15 is a 15 item questionnaire with which patients subjectively evaluate their own ability to perform visually-demanding tasks of daily living (2, 10). The tasks are subdivided into five domains: problems with reading/recognizing faces (central/near vision), problems with darkness/glare, problems with getting around outside/walking in the street, problems with cooking/cleaning/self-care, and problems with bumping into/tripping over objects (peripheral vision). The internal consistency and reproducibility of the assessment over time is high. The visual tasks assessed can be impaired by visual morbidity, but not specifically so; the tasks may be impaired by other physical as well as psychosocial constraints. This could be viewed as an inherent weakness of QoL assessment; alternatively it could be viewed as providing a holistic evaluation of the patient.

The Assessment of Function Related to Vision (AFREV) is a more recently devised objective measure of visual tasks to address some of the weaknesses of subjective testing (12). Patients are observed to perform visually demanding tasks in a controlled manner in both dark and light conditions. It correlates with clinical and subjective measures of glaucoma severity, but

has not been as closely evaluated as the subjective QoL questionnaires.

Depression is common in the elderly population, especially in those with debilitating illness, and is under-diagnosed and under-treated (13). Perhaps more so than other chronic diseases, it can influence a patient's score on a QoL assessment. The relationship between glaucoma and depression in an elderly population, and how depression influences the assessment of QoL has been investigated recently (14). The authors used a geriatric depression screening questionnaire, the GQL-15, the AFREV and visual field indices to evaluate patients with mild, moderate or severe glaucoma. While an association between depression and objective worsening glaucoma severity was detected, this association was not as strong as that between depression and an impaired score on GQL-15 assessment. Unsurprisingly, chronic diseases, in particular those with a strong psychological component such as depression, may magnify a glaucoma patient's perceived burden of illness.

How are we then to interpret these findings? Does this imply that the GQL-15, and perhaps all glaucoma-related QoL surveys, are less reliable in the context of other diseases, in particular psychiatric illness? Or, does it mean we should be more aggressive in the detection and treatment of patients with depression? Or perhaps, as the authors wish to emphasise, that the assessment of QoL can lead the clinician to suspect a psychological or other physical burden, in particular if there is a discrepancy between QoL score and objective glaucoma severity. We already know that depression is common in the geriatric population, particularly those with debilitating chronic illnesses. Detecting and referring patients with mental illness for appropriate treatment could be a real benefit for patients even if their glaucoma is refractory to treatment. As QoL assessment becomes more reliable and widely used, hopefully similar benefits will continue to emerge and improve the holistic management of patients with glaucoma.

REFERENCES

- (1) QUIGLEY H.A., BROMAN AT. – The number of people with glaucoma worldwide in 2010 and 2020. *Br J Ophthalmol.* 2006; 90(3):262-7.
- (2) SPAETH S.G., WALT J., KEENER J. – Evaluation of quality of life for patients with glaucoma. *Am J Ophthalmol.* 2006; 141(1S):S3-14.
- (3) JANZ N.K., WREN P.A., LICHTER P.R., MUSHCH D.C., GILLEPSIE B.W., GUIRE K.E. – Quality of life in newly diagnosed glaucoma patients: the Collaborative Initial Glaucoma Treatment study. *Ophthalmology* 2001; 108:887-897.
- (4) SHERWOOD M.B., GARCIA-IEKAVIZZA MELTZER M.I., HEBERT A., BURNS A.F., MCGORRAY S. – Glaucoma's impact on quality of life and its relation to clinical indicators: a pilot study. *Ophthalmology* 1998; 105:561-566.
- (5) MANGIONE C.M., LEE P.P., PITTS J., GUTTIEREZ P., BERRY S., HAYS R.D., and the NEI-VFQ Field Test Investigators. – Psychometric properties of the National Eye Institute visual function questionnaire (NEI-VFQ). *Arch Ophthalmol* 1998; 116:1496-1504.
- (6) LEE B.L., GUTTIEREZ P., GORDON M, et al. – The glaucoma symptom scale: a brief index of glaucoma-specific symptoms. *Arch Ophthalmol* 1998; 116:861- 866.
- (7) NELSON P, ASPINALL P., O'BRIEN C. – Patients' perception of visual impairment in glaucoma: a pilot study. *Br J Ophthalmol* 1999; 83:546 -552.
- (8) JAMPEL H.D., SCHWARTZ A., POLLACK I., ABRAMS D., WEISS H., MILLER R. – Glaucoma patients' assessment of their visual function and quality of life. *J Glaucoma* 2002; 11:154-163.
- (9) ASPINAL P.A., O'BRIEN C.O., HILL A.R., et al. – Quality of life in patients with glaucoma: a conjoint analysis approach. *Vis Impair Res* 2005; 7:13-26.
- (10) NELSON P, ASPINALL P., PAPASOULIOTIS O., WORTON B., O'BRIENC. – Quality of life in glaucoma and its relationship with visual function. *J Glaucoma* 2003; 12:139 -150.
- (11) WARRIAN K.J., SPAETH G.L., LANKARANIAN D., LOPES J.F., STEINMANN W.C. – The effect of personality on measures of quality of life related to vision in glaucoma patients. *Br J Ophthalmol* 2009; 93(3):310-5.
- (12) ALTANGERELI U., STEINMANN W.C. – Assessment of function related to vision (AFREV). *Ophthal Epidem* 2006; 13: 67-80.
- (13) COLE, DENDUKURI N. – Risk factors for depression among elderly community subjects: a systematic review and meta-analysis. *Am J Psychiatry* 2003; 160: 1147-1156.
- (14) STALICKY S., GOLDBERG I. – Depression and quality of life in patients with glaucoma: a cross-sectional analysis using the Geriatric Depression Scale-15, assessment of function related to vision, and the Glaucoma Quality of Life-15. *J Glaucoma.* 2008; 17(7):546-51.

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