

Brose LS, Dawczynski J, Menon G and Bradley C (2010) Development of the Individualised Eye Dependent Quality of Life Questionnaire: EyeDQoL. 2010 International Society for Quality of Life Research meeting abstracts. *Quality of Life Research*, 19 (suppl 1), 29, Abstract #1183.

<http://www.springerlink.com/content/5203321j83123k3p/fulltext.pdf>

Oral presentation at ISOQOL 17th Annual Conference: October 27-30, 2010 London, UK.

DEVELOPMENT OF THE INDIVIDUALISED EYE-DEPENDENT QUALITY OF LIFE QUESTIONNAIRE: EYEDQOL

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AIMS: To develop the EyeDQoL for UK and Germany, designed using existing related measures and interviews with patients with cataract, glaucoma, macular disease (MD), diabetic retinopathy (DR).

METHODS: EyeDQoL has 2 overview items (present QoL, eye-specific QoL) and 23 domain-specific items, each with an impact and an importance scale, preliminary questions determine applicability for some domains. An open-ended question asks about any other effects on QoL. Data were collected from intervention studies of a) intraocular anti-VEGF injections for DR or MD, n=50, b) cataract surgery in patients with MD, n=103. Principal components analysis identified factor structure, Cronbach's alpha assessed internal consistency. Sensitivity to change following treatment and test-retest reliability (intraclass correlation) in stable patients were examined. Rasch analyses examined targeting, unidimensionality and differential item functioning (DIF) for unweighted impact ratings. Construct validity was examined by testing correlations between overview items and average weighted impact score (AWI, average product of impact and importance of each applicable domain) and expected relationships of EyeDQoL scores with visual acuity (VA). Content validity was explored using the open-ended question.

RESULTS: A one-factor solution with 21 items had high internal consistency ($\alpha=0.96$) and test-retest reliability (0.9 for AWI score); sensitivity to change was more modest, perhaps due to short follow-ups. The scale was well targeted for the samples; 18/21 items displayed ordered thresholds, 3 showed some DIF across studies. As expected, worse VA was associated with worse EyeDQoL scores and AWI correlated with eye-specific QoL but not present QoL. Open-ended question responses mainly emphasised existing items: no additions were needed.

CONCLUSIONS: The EyeDQoL is a valid and reliable measure of the impact of eye conditions and their treatment on individual's QoL; to assess sensitivity further, longer follow-ups are needed. Collapsing response options or dropping 3 items may further improve the scale.