

Development of the Eye Treatment Satisfaction Questionnaire: EyeTSQ

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1. Introduction

The EyeTSQ is a questionnaire to measure satisfaction with treatment for eye conditions for use with multiple eye conditions.

The EyeTSQ is based on questionnaires for diabetes (DTSQ¹), macular disease (MacTSQ²), retinopathy (RetTSQ³) and interviews with patients with cataract, glaucoma, macular degeneration (AMD) and diabetic retinopathy (DR)⁴.

Aims

To develop UK English and German versions of the EyeTSQ.

To evaluate experience of a new treatment - intraocular injections to treat AMD/DR and an established treatment - replacement of cataract lens.

2. Methods

Initial EyeTSQ

- 14 items about aspects of treatment
- Open-ended question about any other sources of dis/satisfaction

Data from intervention studies of

- intraocular anti-VEGF injections for DR or AMD, n=50
- cataract surgery in patients with AMD, n=103

Analyses

- Factor structure: Principal components analysis
- Internal consistency: Cronbach's α
- Targeting, unidimensionality, differential item functioning (DIF): Rasch analyses
- Minimally important differences (MID), distribution-based
- Construct validity: relationship EyeTSQ scores & visual acuity (VA)
- Content validity: responses to question about other sources of dis/satisfaction

3. Results & Discussion

- Scores for cataract surgery extremely positively skewed, those for anti-VEGF injections more normally distributed, Rasch analyses relied on anti-VEGF data.
- 3 items dropped to reduce redundancy and improve unidimensionality.
- One-factor solution (table 1) with high internal consistency ($\alpha=0.89$), a possible pain/side effects subscale was not sufficiently supported.
- Several items displayed disordered thresholds (figure 1), indicating overlapping response options.
- Scale well-targeted; item response options also covered a more negative range than participants' evaluations of treatments studied.
- Women were more apprehensive, less satisfied with risks and experienced treatment as more unpleasant, but no DIF was shown across the sexes.
- MID ranged from 0.24 (1 standard error of measurement, SEM) in the anti-VEGF sample to 0.81 (1.96 SEM) in the combined sample.
- Item 'current satisfaction' may be possible as overview item, but misses negative aspects.
- As expected, worse VA correlated with less satisfaction with injections ($r=0.4$).
- Open-ended question responses indicated no need for new EyeTSQ items but a need for a service satisfaction measure such as the MacSSQ for AMD⁵.

	Component		Component
	1	2	1
Current satisfaction	0.73	0.48	0.87
Demands	0.83	0.23	0.84
Treatment working well	0.79	0.25	0.81
Speak well of treatment	0.77	0.26	0.81
Risks	0.77	0.10	0.73
Drops – difficult	0.83	-0.09	0.69
Satisfaction w Information	0.69	0.08	0.65
Apprehensive	0.57	0.27	0.63
Unpleasant	0.35	0.62	0.60
Side effects	0.08	0.92	0.50
Pain / discomfort	0.08	0.91	0.45

Table 1: Component matrices, shortened EyeTSQ scale, 2-factor* and 1-factor solution

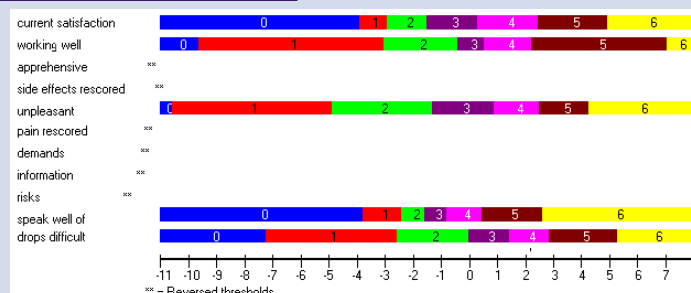
Merged sample, N=85.

Principal Component Analysis.

* Varimax Rotation with Kaiser Normalization.

Items ordered by loading on single factor.

Fig 1: Threshold map shortened EyeTSQ scale



4. Conclusions

The EyeTSQ is a valid and reliable measure of satisfaction with anti-VEGF injections, satisfaction with cataract surgery showed extreme ceiling effect. Evaluation in further samples will determine if single factor structure is optimal and whether response options are used as intended.

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Access to questionnaires

www.healthpsychologyresearch.com

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