INTRODUCTION

- Visual acuity alone is not enough for assessment of patient appropriateness for cataract surgery and prioritization of patients on waiting lists as it does not consider factors such as contrast, brightness, and glare, which may affect visual function. 
- The Catquest-9SF questionnaire was developed to evaluate patients’ visual function as related to daily tasks and proved to be a psychometrically robust and reliable tool in various populations worldwide (2–3).

AIM

To investigate the psychometric performance and responsiveness of Catquest-9SF in patients referred for cataract surgery in Ontario, Canada.

METHODS

- Pooled analysis on prospective data collected for previous projects: 
  - Subjects were recruited from three tertiary care centers in Peel region, Hamilton, and Toronto, Ontario, Canada.
  - Catquest-9SF was administered pre-operative and post-operatively to patients with cataract.
- Psychometric properties, including category threshold order, intrinsics, precision, unidimensionality, targeting, and differential item functioning were assessed using Rasch analysis with Winsteps software (4.4.4) (4).
- Responsiveness of questionnaire scores to cataract surgery was assessed as the difference in preoperative and postoperative scores, and evaluated using paired t-test.

RESULTS

Demographics (Table 1).

- 934 patients with age ≥71 years (76% female) completed the pre- and post-operative Catquest-9SF questionnaires.

Psychometric Properties (Table 2).

- Catquest-9SF had ordered response thresholds, adequate precision, and confirmed unidimensionality. There was one item (‘satisfaction with vision’) misfitting (outfit value=1.5) and targeting of misfitting ≥1.07 in pre-operative scores and misfitting ≥2.53 in both pre- and post-operative scores, meaning that tasks were relatively easy for respondents.

Response to Cataract Surgery (Figure 2).

- Of 934 subjects, 801 (85.8%) reported improvement, 8 (0.9%) reported no change, and 125 (13.4%) had decreased visual function (Figure 2).
- The mean pre-operative score was -1.7±1.3 logits, and the mean post-operative score was -3.1±1.1 logits.
- The improvement of 1.47 logits was statistically significant (p<0.001 paired t-test).

CONCLUSIONS

- Catquest-9SF demonstrated excellent psychometric properties and is a valid and reliable tool for measuring visual function before and after cataract surgery in Ontario.
- There is some misfitting which indicates that the tasks are easy to perform, which is consistent with findings in other populations.
- Future research should explore implementation of Catquest-9SF for clinical decision-making.

REFERENCES